

**WEB APPENDICES FOR "COGNITION AND BEHAVIOR IN TWO-PERSON
GUESSING GAMES: AN EXPERIMENTAL STUDY"**

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APPENDIX A. INSTRUCTIONS FOR BASELINE AND ROBOT/TRAINED SUBJECTS TREATMENTS

BASELINE INSTRUCTIONS

[The OB instructions, which differ from the Baseline instructions only in the parts that pertain to opening boxes to look up payoffs, are available on request. Things in square brackets are not shown to subjects.]

[Baseline screen 1. Introduction]

WELCOME!

PLEASE WAIT UNTIL THE EXPERIMENTER TELLS YOU TO START

You are about to participate in an experiment in decision making. Universities and research foundations have provided the funds for this experiment. If you follow the instructions and pass the Understanding Test, you will be allowed to continue in the experiment. Depending on your decisions, you may then earn a considerable additional amount of money, from \$0 to \$60.

Your additional earnings will be determined by your decisions and the decisions of other participants in the experiment. Before making your decisions, you will have the opportunity to gather information about how your earnings and other participants' earnings depend on your and their decisions.

All the money that you earn is yours to keep, and will be paid to you in private, in cash, after today's session.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 2. Silence]

You may not write during the experiment, except when you are specifically told that you may write during the instructions. It is also important to remain silent and not to look at other people's work. If you have any questions or need assistance of any kind, please raise your hand, and an experimenter will come to you. Otherwise, if you write when it is not allowed, talk, laugh, exclaim out loud, etc., YOU WILL BE ASKED TO LEAVE. Thank you.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 3. Games and motivation]

The experiment has 16 rounds. In each round, you will be matched with one of the other participants, a new one in each round. You will not know which of the other participants you are matched with, and your identity and the identities of the other participants will never be revealed.

Each round concerns a DECISION SITUATION in which you and another person we will call "s/he" (which will refer to a new person each round) separately and independently make decisions called GUESSES. Together, your and her/his guesses determine the numbers of POINTS that you and s/he earn in a round, which may be different.

Neither your nor her/his guess in a round will affect how you or the other participants are matched or the decision situations they face in the rest of the experiment.

EARNING MORE POINTS WILL INCREASE YOUR MONEY PAYMENT
AT THE END OF THE EXPERIMENT, AS EXPLAINED BELOW.

(Click on the bar at the bottom of this screen to move on to the next screen)

Baseline screen 4. Targets and limits, information]

To choose your guesses, it may help you to understand how your and her/his guesses will determine the numbers of points that you and s/he earn in the decision situations.

In each decision situation, each person has her/his own TARGET, LOWER LIMIT, and UPPER LIMIT. These targets and limits may be different for you and her/him, and they may change from round to round. Otherwise, the decision situations are identical in all 16 rounds.

Your and her/his targets, lower limits, and upper limits will be presented to you and her/him on your computer screens, as explained below. Both you and s/he will receive the same instructions and have the same information about

the decision situations and the same access to your and her/his targets and limits.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 5. Determination of point payoffs]

Once you and s/he have chosen your guesses, your (respectively, her/his) guess is automatically adjusted to stay within your (her/his) limits as explained below.

After this adjustment, you earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR target times HER/HIS adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between YOUR adjusted guess and the product of YOUR target times HER/HIS adjusted guess.

S/he earns whichever is larger, either 0 points or 200 points minus the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 6. Determination of point payoffs, continued]

This way of determining the number of points that you and s/he earn makes the number you earn larger, the closer your adjusted guess is to your target times her/his adjusted guess; and it makes the number s/he earns larger, the closer her/his adjusted guess is to her/his target times your adjusted guess.

(Reducing the distance by 10 increases the number of points by 11 when the distance is less than 200, and by 1 when the distance is between 200 and 1000; and it never decreases the number of points.)

Only the distance matters, NOT whether the difference is positive or negative. You earn the same number of points when your adjusted guess is too high by a

given amount as when it is too low by the same amount.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 7. Adjustment of guesses to limits]

To pass the Understanding Test and TO BE ABLE to participate in the experiment, it is important to understand how your (respectively, her/his) guesses will be ADJUSTED to stay within your (her/his) limits. This will be done as follows. If your guess is below your lower limit, then your guess is adjusted UP to your LOWER limit; and if your guess is above your upper limit, then your guess is adjusted DOWN to your UPPER limit.

If, for example, your lower limit is 400 and you guess 300, then your guess is adjusted up to 400. If your upper limit is 600 and you guess 900, then your guess is adjusted down to 600.

Her/his guesses are adjusted up or down to her/his lower or upper limits in the same way, except that her/his limits may be different.

If the explanation above is not clear, please raise your hand and the experimenter will answer your questions.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 8. Adjustment automatic]

This adjustment is AUTOMATIC. Neither you nor s/he is required to enter guesses between your limits. If, in the previous example, you wish to guess your lower limit of 400, guessing 300 works just as well, and leads to the same outcome, as guessing 400.

Both you and s/he will have access to enough information to allow you to figure out whether your or her/his guesses will be adjusted, and by how much, if you wish to do so. But neither you nor s/he will be given any indication of adjustments during the experiment, if they occur.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 9. Introduction to sample screen display]

SAMPLE DECISION SITUATION

In each decision situation, your and her/his targets, lower limits, and upper limits will be hidden in "closed" boxes on your screen. Before you and s/he choose your guesses, you will both have enough time to open the boxes and look up your and her/his targets and limits, as explained below.

The next screen displays your and her/his targets, lower limits, and upper limits in a sample decision situation, with the boxes open. THIS SITUATION IS ONLY AN ILLUSTRATION. In the decision situations in the experiment, the targets and limits may be different, and the boxes will be closed unless you open them, as explained below. The situations will change from round to round, so that in each round you and s/he will have new targets and limits. However, the numbers of points that you and s/he earn will always depend on your and her/his guesses, targets, and limits exactly as in this sample situation.

AS YOU LOOK AT THIS SITUATION, READ THE FIRST PAGE AND A HALF OF THE PRINTED HANDOUT. THEN MOVE ON TO THE NEXT SCREEN BY CLICKING THE BOX "MOVE ON." DO NOT BEGIN THE UNDERSTANDING TEST BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline handout, page 1 and first half of page 2]

DO NOT START READING THIS PAGE UNTIL YOU ARE INSTRUCTED ON THE SCREEN TO DO SO

In each round of the experiment, you will have a display like this on your screen (but with the boxes "closed" unless you open them). You and s/he will each be asked to enter a guess from 0 to 1000. If necessary, your (respectively, her/his) guess will then be automatically adjusted up to your (her/his) lower limit or down to your (her/his) upper limit.

After your and her/his guesses are adjusted, you earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR target times HER/HIS adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth (1/10th) the distance between YOUR adjusted guess and the product of YOUR target times

HER/HIS adjusted guess. In other words, if your target is T , your adjusted guess is G , her/his adjusted guess is H , and $D = |G - TH|$ (the absolute value of $(G - TH)$) is the distance between YOUR adjusted guess and the product of YOUR target times HER/HIS adjusted guess, then you earn $P = \max\{0, 200 - D\} + \max\{0, 100 - D/10\}$ points. Similarly, s/he earns whichever is larger, either 0 points or 200 points minus the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess. If her/his target is S and $E = |H - SG|$ is the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess, then s/he earns $Q = \max\{0, 200 - E\} + \max\{0, 100 - E/10\}$ points.

This way of calculating points makes the number of points you earn (s/he earns) larger, the closer your (her/his) adjusted guess is to your (her/his) target times her/his (your) adjusted guess. For example, consider two possible combinations of guesses in the sample decision situation on your screen:

- First suppose you guess 400 and s/he guesses 600. Neither your nor her/his guess is adjusted, because 400 is within your lower and upper limits 400 and 600, and 600 is within her/his lower and upper limits 200 and 800. You earn $120 + 92 = 212$ points because the distance between your guess 400 and the product of your target 0.8 times her/his guess 600 ($= 480$) is 80 ($= 400 - 480$, ignoring the minus sign because it is a distance); 200 minus 80 is 120, and 120 is larger than 0; and 100 minus $1/10$ times 80 is 92, and 92 is larger than 0. S/he earns $0 + 72 = 72$ points because the distance between her/his guess 600 and the product of her/his target 0.8 times your guess 400 ($= 320$) is 280 ($= 600 - 320$); 200 minus 280 is -80 , and 0 is larger than -80 ; and 100 minus $1/10$ times 280 ($= 28$) is 72, and 72 is larger than 0. Note that it does not matter whether the differences (-80 for you or 280 for her/him) are greater or less than 0, just how far from 0 they are.

- Now suppose you guess 1000 and s/he guesses 100. Your guess is automatically adjusted down to your upper limit 600, and her/his guess is adjusted up to her/his lower limit 200. You earn $0 + 56 = 56$ points because the distance between your adjusted guess 600 and the product of your target 0.8 times her/his adjusted guess 200 ($= 160$) is 440 ($= 600 - 160$); $200 - 440 = -240$, and 0 is larger than -240 ; and 100 minus $1/10$ times 440 ($= 44$) is 56, and 56 is larger than 0. She earns $0 + 72 = 72$ points because the distance between

her/his adjusted guess 200 and the product of her/his target 0.8 times your adjusted guess 600 (= 480) is 280 (= 480-200); 200 minus 280 is -80, and 0 is larger than -80; and 100 minus 1/10 times 280 (= 28) is 72, and 72 is larger than 0.

In the experiment, the numbers of points that you and s/he earn in a round will depend on your and her/his guesses, targets, and limits exactly as in this sample situation. Please be sure you understand how to use the display to figure out how many points you and s/he earn for different combinations of guesses. Raise your hand if you would like more explanation. Otherwise, move on to the next screen.

[End of Baseline handout, page 1 and first half of page 2]

[Baseline screen 10. Sample screen display with boxes open, no response]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800
Move on			

[Baseline screen 11. Entering and confirming guesses]

ENTERING AND CONFIRMING GUESSES

To complete a round and go on to the next round, you must ENTER and CONFIRM a guess.

To enter a guess, use the mouse to POINT AT (move the cursor into) the box beneath "Enter your guess" near the bottom of the screen labeled "Keyboard Entry" and click either button on the mouse. You will then be prompted: "Type Response". Type your guess (a whole number or decimal from 0 to 1000), which will appear in a new box to the right of the box you clicked. Then press the "Enter" key. The guess you typed will now appear in a box labeled "Current Response" further to the right.

If you would like to change your guess, point at the "Keyboard Entry" box again, click the mouse, and proceed as before. When you are ready to confirm

your guess, use the mouse to point at the box at the bottom labeled "Enter this box and click a mouse button when you are ready" and click the mouse. The interface will then go on to the next round.

ONCE YOU HAVE CONFIRMED YOUR GUESS FOR A ROUND,
YOU WILL NOT BE ABLE TO CHANGE YOUR GUESS FOR THAT ROUND.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 12. Acceptable guesses]

The interface will accept any guess (whole number or decimal) from 0 to 1000. However, if you try to enter a number that is not from 0 to 1000, the interface will either crash or make you start the decision situation over.

TO AVOID THIS, WE ASK YOU TO BE CAREFUL TO ENTER ONLY
WHOLE NUMBERS OR DECIMALS FROM 0 TO 1000.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 13. Introduction to sample screen display with boxes open and a box for entering guesses]

SAMPLE DECISION SITUATION WITH A BOX FOR ENTERING YOUR GUESS

The next screen display is the same as before, but now with a box for entering your guess at the bottom of the screen.

FOR PRACTICE, ENTER A GUESS. THEN EITHER CONFIRM YOUR GUESS OR,
IF YOU WISH, CHANGE IT AND THEN CONFIRM YOUR NEW GUESS.

Raise your hand if you have questions.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 14. Sample screen display with boxes open and a box for entering guesses (otherwise same as screen 10)]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Enter your guess (a number from 0 to 1000).

Keyboard Entry/Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[Baseline screen 15. Introduction to Understanding Test]

UNDERSTANDING TEST

You will now take an UNDERSTANDING TEST. After you finish the test, it will be graded.

YOU WILL ONLY BE ALLOWED TO CONTINUE IN THE EXPERIMENT
IF YOU HAVE ANSWERED ALL OF THE QUESTIONS CORRECTLY.

You may write during the Understanding Test, but you will NOT be allowed to write during the decision situations in the experiment.

PLEASE TURN TO THE SECOND HALF OF PAGE 2 OF THE HANDOUT, WHICH CONTAINS THE TEST QUESTIONS. THEN MOVE ON TO THE NEXT SCREEN, WHICH CONTAINS THE DECISION SITUATION FOR THE UNDERSTANDING TEST, AND BEGIN THE TEST.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline handout, rest of page 2]

DO NOT BEGIN THIS TEST BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO

UNDERSTANDING TEST **Subject Identification Number** _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE SPACE PROVIDED. Then use the display on your screen to answer the questions. YOU WILL ONLY BE ALLOWED TO CONTINUE IN THE EXPERIMENT IF YOU ANSWER ALL THE QUESTIONS CORRECTLY.

QUESTIONS:

1. If s/he guesses 500, which of your guesses earns you the most points?
 _____ How many points would you earn by entering that guess? _____
[600, 300 points; neither guess is adjusted]
2. If you guess 400, which of her/his guesses earns her/him the most points?
 _____ How many points would s/he earn by entering that guess? _____ **[400**
(< 400 okay), 212 points; neither guess is adjusted]
3. If s/he guesses 1000, which of your guesses earns you the most points?
 _____ **[600 (> 600 okay); her/his guess is adjusted]**
4. If you guess 900, which of her/his guesses earns her/him the most points?
 _____ **[480; your guess is adjusted]**

YOU HAVE JUST COMPLETED THE UNDERSTANDING TEST.

PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU.

**WHEN HE HAS COLLECTED YOUR TEST, ENTER A GUESS (WHOLE NUMBER OR DECIMAL) FROM
 0 TO 1000 AND CONFIRM IT; THIS WILL TAKE YOU TO THE NEXT SCREEN.**

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[End of Baseline handout, page 2]

[Subjects continue the Instructions while their tests are graded. Subjects who fail are then dismissed, and any answers they give in the practice rounds are excluded from the feedback from the practice rounds. Subjects who pass are told that they may continue, and that all remaining subjects have passed.]

[Baseline screen 16. Decision situation for Understanding Test, boxes open]

	Lower Limit	Target	Upper Limit
Your Limits & Target	200	1.2	600
Her/His Limits & Target	400	0.8	800

Enter your guess (a number from 0 to 1000).

Keyboard Entry/ Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[Baseline screen 17. Closed-boxes explanation]

CLOSED BOXES

In the decision situations in the experiment, you and s/he will have new

targets, lower limits, and upper limits in each round. Their values will vary independently between you and her/him and from round to round, so you will not be able to figure out one value from the other values, either in the current decision situation or in any future situation.

The values of your and her/his targets, lower limits, and upper limits will not be openly displayed. Instead they will be hidden in "closed" boxes on your screens. You will be able to open any box just by POINTING AT (moving the cursor into) it with the mouse and LEFT-clicking the mouse.

You may open as many or as few boxes as you wish, as often and for as long as you wish, in any order. However, you may open only one box at a time. Before you can open a new box, you will have to close the previous box by RIGHT-clicking the mouse; this works no matter where the cursor is on your screen.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 18. Closed-boxes explanation, continued]

During the decision situations in the experiment, YOU ARE NOT ALLOWED TO WRITE.

If you do not remember the number in a box whose value you would like to know, just open the box again.

If you have trouble doing calculations, we have lent you a hand calculator or a printed multiplication table for the targets and (whole number) guesses.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 19. Introduction to sample screen display with boxes closed]

SAMPLE DECISION SITUATION WITH BOXES CLOSED

The next screen presents the same display as before, but with the boxes closed.

USE THE MOUSE TO PRACTICE OPENING AND CLOSING BOXES UNTIL YOU FEEL COMFORTABLE WITH THE PROCEDURE. THEN MOVE ON TO THE FOLLOWING SCREEN BY ENTERING A GUESS (ANY WHOLE NUMBER OR DECIMAL FROM 0 TO 1000) AND CONFIRMING IT.

For further explanation, raise your hand.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 20. Sample screen display with boxes closed (otherwise same as screen 14)]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Sample Decision Situation. Enter your guess (a number from 0 to 1000).

Keyboard Entry/Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[Baseline screen 21. Intermediate screen]

INTERMEDIATE SCREEN

After each round, you will see a screen telling you to proceed to the next round only when you are ready. If you wish, you may rest before proceeding. However, we ask you not to rest DURING a round.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 22. Money payment]

MONEY PAYMENT

Once you have confirmed your guess for a round, you will not be able to change your guess for that round. After you have chosen your guesses for all 16 rounds, your money payment will be determined according to the number of points you earned, given your and the other participants' guesses, as follows:

Five of the 16 rounds will be selected at random, and you will be paid \$0.04 per point for your points earned in those rounds. The rounds will be selected as follows. Tokens numbered 1 to 16 will be placed in a container and shaken. You will then draw five tokens at random, and the numbers you draw will be the rounds for which you are paid for your points.

Suppose, for example, that in the five rounds selected at random, you earned a total of 1000 points. At \$0.04 per point you would then receive \$40.

All the money that you earn is yours to keep, and will be paid to you in private, in cash, after today's session.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline screen 23. Introduction to practice rounds]

PRACTICE ROUNDS

Before you start making guesses in the decision situations in the experiment for money, you will have the opportunity to practice for four rounds. These practice rounds are only sample decision situations. You will NOT be paid for them, and in the decision situations in the experiment your and her/his targets and limits may be different. You may write during the practice rounds, but you will NOT be allowed to write during the decision situations in the experiment.

TURN TO PAGE 3 OF YOUR HANDOUT, HEADED "PRACTICE ROUNDS".

THEN MOVE ON TO THE FOUR PRACTICE ROUNDS, AND WRITE DOWN YOUR GUESS
FOR EACH ROUND BEFORE MOVING ON TO THE NEXT ROUND.

WHEN YOU HAVE FINISHED ALL FOUR PRACTICE ROUNDS,
PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU.

DO NOT GO ON TO THE NEXT SCREEN UNTIL HE HAS COLLECTED PAGE 3 OF
YOUR HANDOUT AND YOU ARE INSTRUCTED TO CONTINUE.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline handout, page 3]

PRACTICE ROUNDS

Subject Identification Number_____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your guesses for the four practice rounds. You may write during the Practice Rounds, but you will NOT be allowed to write during the decision situations in the experiment.

Write down your guess for Practice Round 1:_____

Write down your guess for Practice Round 2:_____

Write down your guess for Practice Round 3:_____

Write down your guess for Practice Round 4:_____

YOU HAVE NOW COMPLETED THE PRACTICE ROUNDS.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR HANDOUT.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of Baseline handout, page 3]

[Baseline screen 24. Practice round 1, boxes closed]

The next screen displays the decision situation for Practice Round 1.

DO NOT MOVE ON TO ROUND 2 BEFORE YOU HAVE WRITTEN DOWN YOUR GUESS FOR ROUND 1.

[Baseline screen 24a. Practice round 1, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	200	1.2	800
Her/His Limits & Target	400	1.2	600

Practice round 1

Move on

[Baseline screen 25. Practice round 2, boxes closed]

The next screen displays the decision situation for Practice Round 2.

DO NOT MOVE ON TO ROUND 3 BEFORE YOU HAVE WRITTEN DOWN YOUR GUESS FOR ROUND 2.

[Baseline screen 25a. Practice round 2, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	400	1.2	800

Practice round 2

Move on

[Baseline screen 26. Practice round 3, boxes closed]

The next screen displays the decision situation for Practice Round 3.

DO NOT MOVE ON TO ROUND 4 BEFORE YOU HAVE WRITTEN DOWN YOUR GUESS FOR ROUND 3.

[Baseline screen 26a. Practice round 3, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	1.2	800
Her/His Limits & Target	400	0.8	600

Practice round 3

Move on

[Baseline screen 27. Practice round 4, boxes closed]

The next screen displays the decision situation for Practice Round 4.

WRITE DOWN YOUR GUESS FOR ROUND 4 AND THEN MOVE ON TO THE FOLLOWING SCREEN.

[Baseline screen 27a. Practice round 4, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	1.2	600
Her/His Limits & Target	200	1.2	800

Practice round 4

Move on

[Baseline screen 28. Finale>

You have now completed the Practice Rounds.

PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU,
AND REMAIN IN YOUR SEAT.

An experimenter will come to collect your handout.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

(Click on the bar at the bottom of this screen to exit the instructions)

[Eliminating subjects who failed the Understanding Test, Baseline subjects are then shown a slide of the tables for Games 1 and 2, with the averages and entire distributions of their guesses written in. They are told that the guesses are only from subjects in their session who passed, that symmetric games were chosen for the practice rounds to be able to give feedback for both player roles, and that the displayed "her/his" decisions in Game 1 and Game 2 are their own decisions as "you" in Games 4 and 3.]

[The following review screens immediately precede the games.]

[Baseline review screen 1. Initial screen]

WELCOME BACK!

PLEASE WAIT UNTIL THE EXPERIMENTER TELLS YOU TO START

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline review screen 2. Review]

We will now have a brief review, in preparation for the decision situations in the experiment.

It is important to remain silent and not to look at other people's work. If you have any questions or need assistance of any kind, please raise your hand, and an experimenter will come to you.

You may NOT write during the rest of the experiment. If you do not remember the number in a box whose value you would like to know, just open the box again. If you have trouble doing calculations, we have lent you a hand calculator or a printed multiplication table for the targets and (whole number) guesses.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline review screen 3. Review, continued]

In each of the 16 rounds of the experiment, you will be matched with one of

the other participants, a new one in each round. You will not know which other participants you are matched with, and your identity and the identities of the other participants will never be revealed.

Each round concerns a DECISION SITUATION in which you and another person we will call "s/he" (which will refer to a new person each round) separately and independently make decisions called GUESSES. Together, your and her/his guesses determine the numbers of POINTS that you and s/he earn in a round, which may be different.

After you have confirmed your guess for a round, you cannot change your guess for that round. Neither your nor her/his guess in a round will affect how you or the other participants are matched or the decision situations they face in the rest of the experiment.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline review screen 4. Review, continued]

The decision situations are identical for everyone, except that each person has her/his own TARGET, LOWER LIMIT, and UPPER LIMIT in each round. These targets and limits may be different for you and her/him, and they may change from round to round. Both you and s/he receive the same instructions and information about the decision situations and have the same access to your and her/his targets and limits on your computer screens.

After each round, the computer will automatically record your and her/his guesses. If necessary, your (respectively, her/his) guess will be automatically adjusted up to your (her/his) lower limit or down to your (her/his) upper limit. However, neither you nor s/he will be given any indication of adjustments during the experiment, if they occur.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline review screen 5. Review, continued]

In each round, you will earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR

target times HER/HIS adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between YOUR adjusted guess and the product of YOUR target times HER/HIS adjusted guess. S/he will earn whichever is larger, either 0 points or 200 points minus the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between HER/HIS adjusted guess and the product of HER/HIS target times YOUR adjusted guess.

This way of determining the number of points that you and s/he earn makes the number you earn larger, the closer your adjusted guess is to your target times her/his adjusted guess; and makes the number s/he earns larger, the closer her/his adjusted guess is to her/his target times your adjusted guess. Neither you nor s/he will be told your point earnings until after the entire experiment is completed. EARNING MORE POINTS INCREASES YOUR MONEY PAYMENT AT THE END OF THE EXPERIMENT, AS WE HAVE EXPLAINED.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Baseline review screen 6. Start of Experiment]

You are now ready to start the 16 decision situations in the experiment. After each round, you will see a screen telling you to proceed to the next round only when you are ready. If you wish, you may rest before proceeding. However, we ask you not to rest DURING a round.

(Click on the bar at the bottom of this screen to start the experiment)

[This completes the Baseline Instructions.]

ROBOT/TRAINED SUBJECTS INSTRUCTIONS

[Things in square brackets are not shown to subjects]

[R/TS screens and handout pages without identifiers are common to all six R/TS treatments, except for York subjects' fees as indicated]

[R/TS screen 1. Introduction]

WELCOME!

PLEASE WAIT UNTIL THE EXPERIMENTER TELLS YOU TO START

You are about to participate in an experiment in decision making. Universities and research foundations have provided the funds for this experiment. If you follow the instructions and pass both parts of the Understanding Test, you will earn \$5 **[York: 2.50]** for passing the test, and you will be allowed to continue in the experiment. Depending on your decisions, you may then earn a considerable additional amount of money, from \$0 to \$60 **[York: 0 to 30 pounds]**. Before making your decisions, you will have the opportunity to gather information about how your earnings depend on your decisions.

All the money that you earn is yours to keep, and will be paid to you in private, in cash, after today's session.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 2. Silence]

You may not write during the experiment, except when you are specifically told that you may write during the instructions. It is also important to remain silent and not to look at other people's work. If you have any questions or need assistance of any kind, please raise your hand, and an experimenter will come to you. Otherwise, if you write when it is not allowed, talk, laugh, exclaim out loud, etc., YOU WILL BE ASKED TO LEAVE. Thank you.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 3. Games and motivation]

The experiment has 16 rounds. Each round concerns a DECISION SITUATION, in

which you and the computer separately and independently make decisions called GUESSES. The computer chooses its guesses in each decision situation by following a rule explained below. Together, your and the computer's guesses determine the numbers of POINTS that you earn, and that the computer would earn, in a round, which may be different.

Neither your nor the computer's guess in a round will affect the decision situations you or the other participants face or the computer's guesses in the rest of the experiment. Your identity will never be revealed.

EARNING MORE POINTS WILL INCREASE YOUR MONEY PAYMENT
AT THE END OF THE EXPERIMENT, AS EXPLAINED BELOW.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 4. Targets and limits, information]

To choose your guesses, it may help you to understand how your and the computer's guesses will determine the numbers of points that you earn, and that the computer would earn, in the decision situations.

In each decision situation, you and the computer each have your own TARGET, LOWER LIMIT, and UPPER LIMIT. These targets and limits may be different for you and the computer, and they may change from round to round. Otherwise, the decision situations are identical in all 16 rounds.

Your and the computer's targets, lower limits, and upper limits will be presented to you on your computer screen, as explained below. Both you and the computer will have the same information about the decision situations and the same access to your and the computer's targets and limits.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 5. Determination of point payoffs]

Once you and the computer have chosen your guesses, your (respectively, its) guess is automatically adjusted to stay within your (its) limits as explained below.

After this adjustment, you earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR target times THE COMPUTER'S adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between YOUR adjusted guess and the product of YOUR target times THE COMPUTER'S adjusted guess.

The computer would earn whichever is larger, either 0 points or 200 points minus the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth ($1/10$ th) the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 6. Determination of point payoffs, continued]

This way of determining the number of points that you earn, and that the computer would earn, makes the number you earn larger, the closer your adjusted guess is to your target times the computer's adjusted guess; and it makes the number the computer would earn larger, the closer its adjusted guess is to its target times your adjusted guess.

(Reducing the distance by 10 increases the number of points by 11 when the distance is less than 200, and by 1 when the distance is between 200 and 1000; and it never decreases the number of points.)

Only the distance matters, NOT whether the difference is positive or negative. You earn the same number of points when your adjusted guess is too high by a given amount as when it is too low by the same amount.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 7. Adjustment of guesses to limits]

To pass the Understanding Test and TO BE ABLE to participate in the experiment, it is important to understand how your (respectively, the

computer's) guesses will be ADJUSTED to stay within your (its) limits. This will be done as follows. If your guess is below your lower limit, then your guess is adjusted UP to your LOWER limit; and if your guess is above your upper limit, then your guess is adjusted DOWN to your UPPER limit.

If, for example, your lower limit is 400 and you guess 300, then your guess is adjusted up to 400. If your upper limit is 600 and you guess 900, then your guess is adjusted down to 600.

The computer's guesses are adjusted up or down to her/his lower or upper limits in the same way, except that its limits may be different.

If the explanation above is not clear, please raise your hand and the experimenter will answer your questions.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 8. Adjustment automatic]

This adjustment is AUTOMATIC. You are not required to enter guesses between your lower and upper limits. If, in the previous example, you wish to guess your lower limit of 400, guessing 300 works just as well, and leads to the same outcome, as guessing 400.

You will have access to enough information to allow you to figure out whether your or the computer's guesses will be adjusted, and by how much, if you wish to do so. But you will not be given any indication of adjustments during the experiment, if they occur.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 9. Introduction to sample screen display]

SAMPLE DECISION SITUATION

In each decision situation, your and the computer's targets, lower limits, and

upper limits will be hidden in "closed" boxes on your screen. Before you choose your guesses, you will have enough time to open the boxes and look up your and the computer's targets and limits, as explained below.

The next screen displays your and the computer's targets, lower limits, and upper limits in a sample decision situation, with the boxes open. THIS SITUATION IS ONLY AN ILLUSTRATION. In the decision situations in the experiment, the targets and limits may be different, and the boxes will be closed unless you open them, as explained below. The situations will change from round to round, so that in each round you and the computer will have new targets and limits. However, the numbers of points that you earn, and that the computer would earn, will always depend on your and the computer's guesses, targets, and limits exactly as in this sample situation.

AS YOU LOOK AT THIS SITUATION, READ THE FIRST PAGE AND A HALF OF THE PRINTED HANDOUT. THEN MOVE ON TO THE NEXT SCREEN BY CLICKING THE BOX "MOVE ON." DO NOT BEGIN THE UNDERSTANDING TEST BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS handout, page 1 and first half of page 2]

DO NOT START READING THIS PAGE UNTIL YOU ARE INSTRUCTED ON THE SCREEN TO DO SO

In each round of the experiment, you will have a display like this on your screen (but with the boxes "closed" unless you open them). You will be asked to enter a guess from 0 to 1000. If necessary, your (respectively, the computer's) guess will then be automatically adjusted up to your (its) lower limit or down to your (its) upper limit.

After your and the computer's guesses are adjusted, you earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR target times ITS adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth (1/10th) the distance between YOUR adjusted guess and the product of YOUR target times ITS adjusted guess. In other words, if your target is T , your adjusted guess is G , its adjusted guess is H , and $D = |G - TH|$ (the absolute value of $(G - TH)$) is the distance between YOUR adjusted guess and the product of YOUR target times ITS adjusted guess, then you earn $P = \max\{0, 200 - D\} + \max\{0, 100 -$

D/10} points. Similarly, the computer would earn whichever is larger, either 0 points or 200 points minus the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth (1/10th) the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess. If its target is S and $E = |H - SG|$ is the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess, then it would earn $Q = \max\{0, 200 - E\} + \max\{0, 100 - E/10\}$ points.

This way of calculating points makes the number of points you earn (the computer would earn) larger, the closer your (its) adjusted guess is to your (its) target times its (your) adjusted guess. For example, consider two possible combinations of guesses in the sample decision situation on your screen:

- First suppose you guess 400 and the computer guesses 600. Neither your nor its guess is adjusted, because 400 is within your lower and upper limits 400 and 600, and 600 is within its lower and upper limits 200 and 800. You earn $120 + 92 = 212$ points because the distance between your guess 400 and the product of your target 0.8 times its guess 600 ($= 480$) is 80 ($= 400 - 480$, ignoring the minus sign because it is a distance); 200 minus 80 is 120, and 120 is larger than 0; and 100 minus 1/10 times 80 is 92, and 92 is larger than 0. It would earn $0 + 72 = 72$ points because the distance between its guess 600 and the product of its target 0.8 times your guess 400 ($= 320$) is 280 ($= 600 - 320$); 200 minus 280 is -80, and 0 is larger than -80; and 100 minus 1/10 times 280 ($= 28$) is 72, and 72 is larger than 0. Note that it does not matter whether the differences (-80 for you or 280 for it) are greater or less than 0, just how far from 0 they are.

- Now suppose you guess 1000 and the computer guesses 100. Your guess is automatically adjusted down to your upper limit 600, and its guess is adjusted up to its lower limit 200. You earn $0 + 56 = 56$ points because the distance between your adjusted guess 600 and the product of your target 0.8 times its adjusted guess 200 ($= 160$) is 440 ($= 600 - 160$); $200 - 440 = -240$, and 0 is larger than -240; and 100 minus 1/10 times 440 ($= 44$) is 56, and 56 is larger than 0. The computer would earn $0 + 72 = 72$ points because the distance between its adjusted guess 200 and the product of its target 0.8 times your adjusted guess 600 ($= 480$) is 280 ($= 480 - 200$); 200 minus 280 is -80, and 0 is larger than -80; and 100 minus 1/10 times 280 ($= 28$) is 72, and 72 is larger than 0.

In the experiment, the numbers of points that you earn and the computer would earn in a round will depend on your and its guesses, targets, and limits exactly as in this sample situation. Please be sure you understand how to use the display to figure out how many points you earn and it would earn for different combinations of guesses. Raise your hand if you would like more explanation. Otherwise, move on to the next screen.

[End of R/TS handout, page 1 and first half of page 2]

[R/TS screen 10. Sample screen display with boxes open, no response]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800
Move on			

[R/TS screen 11. Entering and confirming guesses]

ENTERING AND CONFIRMING GUESSES

To complete a round and go on to the next round, you must ENTER and CONFIRM a guess.

To enter a guess, use the mouse to POINT AT (move the cursor into) the box beneath "Enter your guess" near the bottom of the screen labeled "Keyboard Entry" and click either button on the mouse. You will then be prompted: "Type Response". Type your guess (a whole number or decimal from 0 to 1000), which will appear in a new box to the right of the box you clicked. Then press the "Enter" key. The guess you typed will now appear in a box labeled "Current Response" further to the right.

If you would like to change your guess, point at the "Keyboard Entry" box again, click the mouse, and proceed as before. When you are ready to confirm your guess, use the mouse to point at the box at the bottom labeled "Enter this box and click a mouse button when you are ready" and click the mouse. The interface will then go on to the next round.

ONCE YOU HAVE CONFIRMED YOUR GUESS FOR A ROUND,

YOU WILL NOT BE ABLE TO CHANGE YOUR GUESS FOR THAT ROUND.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 12. Acceptable guesses]

The interface will accept any guess (whole number or decimal) from 0 to 1000. However, if you try to enter a number that is not from 0 to 1000, the interface will either crash or make you start the decision situation over.

TO AVOID THIS, WE ASK YOU TO BE CAREFUL TO ENTER ONLY
WHOLE NUMBERS OR DECIMALS FROM 0 TO 1000.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 13. Introduction to sample screen display with boxes open and a box for entering guesses]

SAMPLE DECISION SITUATION WITH A BOX FOR ENTERING YOUR GUESS

The next screen display is the same as before, but now with a box for entering your guess at the bottom of the screen.

FOR PRACTICE, ENTER A GUESS. THEN EITHER CONFIRM YOUR GUESS OR,
IF YOU WISH, CHANGE IT AND THEN CONFIRM YOUR NEW GUESS.

Raise your hand if you have questions.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 14. Sample screen display with boxes open and a box for entering guesses (otherwise same as R/TS screen 10)]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Enter your guess (a number from 0 to 1000).

Keyboard Entry/Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[R/TS screen 15. Introduction to Understanding Test, Part 1]

UNDERSTANDING TEST, PART 1

You will now take the first part of an UNDERSTANDING TEST. After you finish this part of the test, it will be graded.

YOU WILL ONLY BE ALLOWED TO CONTINUE IN THE EXPERIMENT
IF YOU HAVE ANSWERED ALL OF THE QUESTIONS CORRECTLY.

You may write during the Understanding Test, but you will NOT be allowed to write during the decision situations in the experiment.

PLEASE TURN TO THE SECOND HALF OF PAGE 2 OF THE HANDOUT, WHICH CONTAINS THE TEST QUESTIONS. THEN MOVE ON TO THE NEXT SCREEN, WHICH CONTAINS THE DECISION SITUATION FOR PART 1 OF THE UNDERSTANDING TEST, AND BEGIN THE TEST.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS handout, second half of page 2]

DO NOT BEGIN THIS TEST BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO

UNDERSTANDING TEST **Subject Identification Number** _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE SPACE PROVIDED. Then use the display on your screen to answer the questions. YOU WILL ONLY BE

ALLOWED TO CONTINUE IN THE EXPERIMENT IF YOU ANSWER ALL THE QUESTIONS CORRECTLY.

QUESTIONS:

1. If the computer guesses 500, which of your guesses earns you the most points? _____ How many points would you earn by entering that guess? _____
[600, 300 points; neither guess is adjusted]
2. If you guess 400, which of the computer's guesses would earn it the most points? _____ How many points would it earn by entering that guess? _____
[400 (< 400 okay), 212 points; neither guess is adjusted]
3. If the computer guesses 1000, which of your guesses earns you the most points? _____ [600 (> 600 okay); her/his guess is adjusted]
4. If you guess 900, which of the computer's guesses would earn it the most points? _____ [480; your guess is adjusted]

YOU HAVE JUST COMPLETED PART 1 OF THE UNDERSTANDING TEST.

PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU.

WHEN HE HAS COLLECTED YOUR TEST, ENTER A GUESS (WHOLE NUMBER OR DECIMAL) FROM 0 TO 1000 AND CONFIRM IT; THIS WILL TAKE YOU TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.
[End of R/TS handout page 2.]

[Subjects continue the Instructions while their tests are graded. Subjects who fail are then dismissed. Subjects who pass are told that they may continue.]

[R/TS screen 16. Decision situation for Understanding Test, Part 1, boxes open]

	Lower Limit	Target	Upper Limit
Your Limits & Target	200	1.2	600
Her/His Limits & Target	400	0.8	800

Enter your guess (a number from 0 to 1000).

Keyboard Entry/ Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[R/TS screen 17. Introduction to explanation of the computer's guessing rule]

Recall that in the decision situations in the experiment, you will be interacting with the computer, which is programmed to choose its guesses by following a rule. Your guess in a round will not affect the decision situations you face in the rest of the experiment. Neither your nor the computer's guesses in a round will affect the computer's guesses in the rest of the experiment.

We will now explain the rule the computer will use to choose its guesses in each round. This explanation is repeated on your handout, which you will be allowed to keep for reference (but not to write on) during the experiment.

(Click on the bar at the bottom of this screen to move on to the next screen)

[Variations for R/TSEq, R/TSL1, R/TSL2, R/TSL3, R/TSD1, and R/TSD2 are now given in sequence]

[R/TSEq screen 18. Equilibrium explanation]

The computer's rule is based on the idea that each person in a decision situation may want to choose a guess that earns her/him as many points as possible, taking into account her/his prediction of the other person's guess.

A combination of guesses, one for each person, such that each person's guess earns her/him as many points as possible, given the other person's guess, is called an EQUILIBRIUM. We will call your adjusted guess in an equilibrium YOUR EQUILIBRIUM GUESS, and we will call the computer's adjusted guess in an equilibrium ITS EQUILIBRIUM GUESS.

The computer's rule is to choose ITS EQUILIBRIUM GUESS.

(Sometimes, because guesses are automatically adjusted to stay within limits, the computer may have more than one guess that would earn it as many points as possible, given your equilibrium guess; but all such guesses lead to the same adjusted guess, and the same outcome, as entering its equilibrium guess.)

TURN TO PAGE 3 OF THE HANDOUT, AND READ ONLY THE
FIRST TWO PARAGRAPHS, WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSEq handout page 3]

A combination of guesses, one for each person, such that each person's guess earns her/him as many points as possible, given the other person's guess, is called an EQUILIBRIUM. We will call your adjusted guess in an equilibrium YOUR EQUILIBRIUM GUESS, and we will call the computer's adjusted guess in an equilibrium ITS EQUILIBRIUM GUESS. The computer's rule is to choose ITS EQUILIBRIUM GUESS. (Sometimes the computer may have more than one guess that would earn it as many points as possible, given your equilibrium guess; but all such guesses lead to the same adjusted guess, and the same outcome, as entering its equilibrium guess.)

For example, in the decision situation on this screen **(PLEASE DO NOT MOVE FROM THIS SCREEN)**, your equilibrium guess is 400 and the computer's ("her/his") equilibrium guess is 320. Neither guess needs to be adjusted to stay between your or the computer's limits. If the computer guesses 320, you cannot earn any more points than by guessing 400, because your target 0.8 times its guess $320 = 256$. If you guessed less than 400, then your guess would be adjusted up to your lower limit 400, yielding the same outcome; and if you guessed more than 400, your guess would be even further away from 256, and you would earn even fewer points. Similarly, if you guess 400, the computer could not earn any more points than by guessing 320, because its target 0.8 times your guess $400 = 320$. If the computer guessed more or less than 320, then its guess would be further away from 320, and it would earn fewer points.

**MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S
RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.**

[The "next screen" is R/TSEq screen 19a below]

[End of first two paragraphs of R/TSEq handout page 3]

[R/TSL1 screen 18. L1 explanation]

The computer's rule is random, and it is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it

guesses halfway between its lower and upper limits.

TURN TO PAGE 3 OF THE HANDOUT, AND READ IT WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSL1 handout page 3]

The computer's rule is random. It is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it guesses halfway between its lower and upper limits.

For example, in the decision situation on this screen (**PLEASE DO NOT MOVE FROM THIS SCREEN**), the computer's ("her/his") lower limit is 200 and its upper limit is 800. The computer is therefore equally likely to choose any guess from 200 to 800, so that, on average, it guesses 500 ($= (200 + 800)/2$).

PLEASE MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[The "next screen" is R/TS screen 20 below]

[End of R/TSL1 handout page 3]

[R/TSL2 screen 18. L2 explanation]

The computer's rule is based on the assumption that you are equally likely to choose any guess from your lower limit to your upper limit, so that, on average, you guess halfway between your lower and upper limits.

The computer's rule is to choose the guess that would earn it as many points as possible if you guess halfway between your lower and upper limits.

TURN TO PAGE 3 OF THE HANDOUT, AND READ IT WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSL2 handout page 3]

The computer's rule is based on the assumption that you are equally likely to choose any guess from your lower limit to your upper limit, so that, on average, you guess halfway between your lower and upper limits.

The computer's rule is to choose the guess that would earn it as many points as possible if you guess halfway between your lower and upper limits.

For example, in the decision situation on this screen (PLEASE DO NOT MOVE FROM THIS SCREEN), your lower limit is 400 and your upper limit is 600. The computer therefore assumes that you are equally likely to choose any guess from 400 to 600, so that, on average, you guess 500 ($= (400 + 600)/2$). The guess that would then earn the computer as many points as possible is its ("her/his") target 0.8 times your assumed average guess $500 = 400$. Because 400 is within the computer's lower and upper limits, this guess will not be adjusted.

PLEASE MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[The "next screen" is R/TS screen 20 below]

[End of R/TSL2 handout page 3]

[R/TSL3 screen 18. L3 explanation]

The computer's rule is based on the assumption that you assume that the computer is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it guesses halfway between its lower and upper limits.

The computer's rule is to choose the guess that would earn it as many points as possible if you chose the guess that would earn you as many points as possible assuming that the computer guesses halfway between its lower and upper limits.

TURN TO PAGE 3 OF THE HANDOUT, AND READ IT WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSL3 handout page 3]

The computer's rule is based on the assumption that you assume that the computer is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it guesses halfway between its lower and upper limits.

The computer's rule is to choose the guess that would earn it as many points as possible if you chose the guess that would earn you as many points as possible assuming that the computer guesses halfway between its lower and upper limits.

For example, in the decision situation on this screen (**PLEASE DO NOT MOVE FROM THIS SCREEN**), the computer's ("her/his") lower limit is 400 and its upper limit is 600. The computer assumes that you choose the guess that would earn you as many points as possible assuming that the computer is equally likely to choose any guess from its lower limit to its upper limit. If the computer were equally likely to choose any guess from 400 to 600, on average it would guess 500 ($= (400 + 600)/2$). If you assumed that the computer guesses 500, the guess that would earn you as many points as possible is your target, 0.8, times 500 ($= 400$). Because 400 is within your lower and upper limits, your guess would not be adjusted. If the computer assumes that you guess 400, the guess that earns it as many points as possible is its target, 0.8, times your expected guess 400 ($= 320$). Because 320 is below the computer's lower limit, 400, that guess will then be adjusted up to its lower limit, 400.

PLEASE MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[The "next screen" is R/TS screen 20 below]

[End of R/TSL3 handout page 3]

[R/TSD1 screen 18. D1 explanation]

A guess is DOMINATED for a person if, no matter what the other person guesses, the guess earns her/him fewer points than some other possible guess.

The computer never makes a dominated guess. But otherwise, the computer's rule is random, and it is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it guesses halfway between its lowest and highest guesses that are NOT dominated.

TURN TO PAGE 3 OF THE HANDOUT, AND READ IT WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSD1 handout page 3]

A guess is DOMINATED for a person if, no matter what the other person guesses, the guess earns her/him fewer points than some other possible guess.

The computer never makes a dominated guess. But otherwise, the computer's rule is random, and it is equally likely to choose any guess from its lower limit to its upper limit, so that, on average, it guesses halfway between its lowest and highest guesses that are NOT dominated.

For example, in the decision situation displayed on this screen (PLEASE DO NOT MOVE FROM THIS SCREEN) your lower limit, upper limit, and target are 400, 600, and 0.8; and the computer's ("her/his") lower limit, upper limit, and target are 200, 800, and 0.8. Your adjusted guess must be from 400 to 600. Given that, any guess for the computer that is further than necessary below its target 0.8 times your lowest possible adjusted guess 400 ($= 320$), or further than necessary above 0.8 times your highest possible adjusted guess 600 ($= 480$), would be dominated, because no matter what you guessed, the computer could earn more points by guessing 320 in the first case, or by guessing 480 in the second case. This eliminates all of the computer's guesses but those from 320 to 480. The computer is therefore equally likely to choose any of its

guesses that are NOT dominated, those from 320 to 480, so that, on average, it guesses 400 ($= (320 + 480)/2$).

PLEASE MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[The "next screen" is R/TS screen 20 below]

[End of R/TSD1 handout page 3]

[R/TSD2 screen 18. D2 explanation]

A guess is DOMINATED for a person if, no matter what the other person guesses, the guess earns her/him fewer points than some other possible guess. Once guesses that are dominated for yourself and/or for her/him have been eliminated, additional guesses may become dominated.

The computer never makes a dominated guess. The computer also never makes a guess that becomes dominated for it, once guesses that are dominated for yourself have been eliminated. But otherwise, the computer's rule is random, and it is equally likely to choose any of the remaining guesses, so that, on average, it guesses halfway between its lowest and highest guesses that are NEITHER dominated for it NOR become dominated for it once guesses that are dominated for yourself have been eliminated.

TURN TO PAGE 3 OF THE HANDOUT, AND READ IT WHILE YOU LOOK AT THE NEXT SCREEN.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 19 below]

[R/TSD2 handout page 3]

A guess is DOMINATED for a person if, no matter what the other person guesses, the guess earns her/him fewer points than some other possible guess. Once guesses that are dominated for yourself and/or for her/him have been eliminated, additional guesses may become dominated.

The computer never makes a dominated guess. The computer also never makes a guess that becomes dominated for it, once guesses that are dominated for yourself have been eliminated. But otherwise, the computer's rule is random, and it is equally likely to choose any of the remaining guesses, so that, on average, it guesses halfway between its lowest and highest guesses that are NEITHER dominated for it NOR become dominated for it once guesses that are dominated for yourself have been eliminated.

For example, in the decision situation displayed on this screen (**PLEASE DO NOT MOVE FROM THIS SCREEN**) your lower limit, target, and upper limit are 200, 0.8, and 800; and the computer's ("her/his") lower limit, target, and upper limit are 400, 1.2, and 600. Your adjusted guess must be from 200 to 800. Given that, any guess for the computer that is further than necessary below its target 1.2 times your lowest possible adjusted guess 200 ($= 240$), or further than necessary above 1.2 times your highest possible adjusted guess 800 ($= 960$), would be dominated, because no matter what you guessed, the computer could earn more points by guessing 240 in the first case, or 960 in the second case. However, because the computer's adjusted guess cannot be below its lower limit 400 or above its upper limit 600, these conditions eliminate no guesses for it.

Similarly, the computer's adjusted guess must be from 400 to 600. Given that, any guess for you that is further than necessary below your target 0.8 times the computer's lowest possible adjusted guess 400 ($= 320$), or further than necessary above 0.8 times its highest possible adjusted guess 600 ($= 480$), would be dominated for you, because no matter what the computer guessed, you could then earn more points by guessing closer to 320 or 480. This eliminates all of your guesses but those from 320 to 480.

[End of R/TSD2 handout page 3]

[R/TSD2 handout page 4]

The first iteration of dominance eliminates no guesses for the computer. But because the first iteration of dominance eliminates all of your guesses but those from 320 to 480, in the second iteration any guess further than necessary below the computer's target 1.2 times your lowest remaining guess 320 ($= 384$) or further than necessary above 1.2 times your highest remaining

guess 480 (= 576) would be dominated, because no matter what you guessed, the computer could then earn more points by guessing closer to 384 or 576. Because the computer's adjusted guess cannot be below its lower limit 400, these conditions eliminate all of its guesses but those from 400 to 576. The computer is therefore equally likely to choose any of its guesses from 400 to 576, so that, on average, it guesses 488 (= $(400 + 576)/2$).

PLEASE MAKE SURE YOU UNDERSTAND THE EXPLANATION OF THE COMPUTER'S RULE BEFORE PROCEEDING. THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[The "next screen" is R/TS screen 20 below]

[End of R/TSD2 handout page 4]

[R/TS screen 19 (same as Screen 10). Explanation of the computer's guessing rule, continued, boxes open]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Sample Decision Situation

Move on

[R/TSEq screen 19a. Different methods to find an equilibrium]

In the experiment, you may find it helpful to be able to find an equilibrium in the decision situations. There are several methods for finding an equilibrium, which we will now explain.

PLEASE READ THE REST OF PAGE 3 AND PAGES 4-6 OF THE HANDOUT NOW, MOVING ON TO THE NEXT SCREEN WHEN YOU ARE INSTRUCTED ON THE HANDOUT TO DO SO.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TSEq screen 19b below]

[Last paragraph of R/TSEq handout page 3]

We now explain some methods for finding an equilibrium in the decision situations. The methods are called Equilibrium Checking, Best-Response Dynamics, and Iterated Dominance. Each method can be used to find an equilibrium in all of the decision situations. You will be allowed to keep this handout for reference during the experiment (but not to write on). HOWEVER, IT IS IMPORTANT TO READ THE REST OF THE HANDOUT CAREFULLY AND UNDERSTAND IT NOW, BECAUSE YOU WILL ONLY BE ALLOWED TO CONTINUE IN THE EXPERIMENT IF YOU PASS PART 2 OF THE UNDERSTANDING TEST, WHICH DEPENDS ON THE REST OF THE HANDOUT.

PLEASE TURN TO THE NEXT PAGE AND READ IT WHILE LOOKING AT THE NEXT SCREEN.

[The "next screen" is R/TSEq screen 19a below]

[End of R/TSEq handout page 3]

[R/TSEq screen 19b (same as screen 10). Explanation of the computer's guessing rule, continued, boxes open, no response]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Sample Decision Situation

Move on

[R/TSEq handout page 4]

EQUILIBRIUM CHECKING: You may be able to identify an equilibrium by checking combinations of guesses directly. For example, in the decision situation displayed on this screen (**PLEASE DO NOT MOVE FROM THIS SCREEN**) your lower limit, target, and upper limit are 400, 0.8, and 600; and the computer's lower limit, target, and upper limit are 200, 0.8, and 800. The guesses 400 for you and 320 for the computer are in equilibrium. Neither guess needs to be adjusted to stay between your or its limits. If the computer guesses 320, you cannot earn any more points than by guessing 400, because your target 0.8 times its guess 320 (= 256). If you guessed less than 400, then your guess would be adjusted up to your lower limit 400, yielding the same outcome; and

if you guessed more than 400, your guess would be even further away from 256, and you would earn even fewer points. Similarly, if you guess 400, the computer could not earn any more points than by guessing 320, because its target 0.8 times your guess 400 (= 320). If the computer guessed more or less than 320, then its guess would be further away from 320, and it would earn fewer points. If you do not find an equilibrium at first, you may have to check several combinations of guesses to find one.

MAKE SURE THAT YOU UNDERSTAND EQUILIBRIUM CHECKING BEFORE PROCEEDING.

DO NOT MOVE ON TO THE NEXT SCREEN BEFORE YOU ARE INSTRUCTED TO DO SO.

BEST-RESPONSE DYNAMICS: A person's BEST RESPONSE to the other person's guess is the guess that earns her/him the most points possible, given the other person's guess. You may be able to identify an equilibrium by starting with any guesses and computing your and the computer's best responses to them, enforcing your and its lower and upper limits. If you repeat this process enough, your and the computer's best responses will stop changing. They are then in equilibrium.

For example, in the decision situation displayed on this screen, your lower limit, target, and upper limit are 400, 0.8, and 600; and the computer's lower limit, target, and upper limit are 200, 0.8, and 800. If you start at the computer's upper limit 800, your best response is 600 (not 0.8 times 800 = 640, which is above your upper limit). The computer's best response to your guess of 600 is 0.8 times 600 = 480. In the second iteration, your best response to the computer's guess of 480 is 400 (not 384), and its best response to your guess of 400 is 320. In the third iteration, your best response to its guess of 320 is 400 (not 256, which is below your lower limit). All further best responses are 400 for you and 320 for the computer, so these guesses are in equilibrium.

MAKE SURE THAT YOU UNDERSTAND BEST-RESPONSE DYNAMICS BEFORE PROCEEDING.

THEN TURN TO THE NEXT PAGE AND READ IT, BUT DO NOT MOVE ON TO THE NEXT SCREEN.

[End of R/TSEq handout page 4]

[R/TSEq handout page 5]

DO NOT MOVE ON TO THE NEXT SCREEN BEFORE YOU ARE INSTRUCTED TO DO SO.

ITERATED DOMINANCE: A guess is DOMINATED for a person if, no matter what the other person guesses, the guess gives her/him fewer points than some other possible guess. You may be able to identify an equilibrium by eliminating

dominated guesses for yourself or for her/him, then eliminating guesses that become dominated once your or her/his dominated guesses are eliminated, and so on. If this reduces the decision situation to a situation in which you and s/he each have only one adjusted guess left, then those adjusted guesses are your and her/his equilibrium guesses.

For example, in the decision situation displayed on this screen (**PLEASE DO NOT MOVE FROM THIS SCREEN**) your lower limit, target, and upper limit are 400, 0.8, and 600; and the computer's ("her/his") lower limit, target, and upper limit are 200, 0.8, and 800. Your adjusted guess must be from 400 to 600. Given that, any guess for the computer that is further than necessary below its target 0.8 times your lowest possible adjusted guess 400 ($= 320$), or further than necessary above 0.8 times your highest possible adjusted guess 600 ($= 480$), would be dominated, because no matter what you guessed, the computer could earn more points by guessing 320 in the first case, or by guessing 480 in the second case. This eliminates all of the computer's guesses but those from 320 to 480.

Similarly, the computer's adjusted guess must be from 200 to 800. Given that, any guess for you that is further than necessary below your target 0.8 times the computer's lowest possible adjusted guess 200 ($= 160$), or further than necessary above 0.8 times its highest possible adjusted guess 800 ($= 640$), would be dominated for you, because no matter what the computer guessed, you could then earn more points by guessing closer to 160 or 640. However, because your adjusted guess cannot be below your lower limit 400 or above your upper limit 600, these conditions eliminate no guesses for you.

Because the first iteration of dominance eliminates no guesses for you, the second iteration of dominance eliminates no guesses for the computer.

TURN TO THE NEXT PAGE AND READ IT, BUT DO NOT MOVE ON TO THE NEXT SCREEN.

[End of R/TSeq handout page 5]

[R/TSeq handout page 6]

ITERATED DOMINANCE, CONTINUED: Because the first iteration of dominance eliminates all of the computer's guesses but those from 320 to 480, in the second iteration any guess further than necessary below your target 0.8 times

the computer's lowest remaining guess 320 (= 256) or further than necessary above 0.8 times its highest remaining guess 480 (= 384) would be dominated, because no matter what the computer guessed, you could then earn more points by guessing closer to 256 or 384. Because your adjusted guess cannot be below your lower limit 400, the first condition eliminates no guesses for you, but the second condition eliminates all of your guesses but your lower limit 400 (or guesses below 400). 400 is therefore your equilibrium guess.

Because the second iteration of dominance eliminates all of your guesses but 400, in the third iteration any guess for the computer that is further than necessary from its target 0.8 times 400 (= 320), would be dominated. Because 320 is within the computer's lower and upper limits, this identifies 320 as the computer's equilibrium guess.

MAKE SURE THAT YOU UNDERSTAND ITERATED DOMINANCE BEFORE PROCEEDING.

THEN MOVE ON TO THE NEXT SCREEN.

DO NOT TURN TO THE NEXT PAGE BEFORE YOU ARE INSTRUCTED ON THE SCREEN TO DO SO.

[End of R/TSeq handout page 6]

[R/TS screen 20. Closed-boxes explanation]

CLOSED BOXES

In the decision situations in the experiment, you and the computer will have new targets, lower limits, and upper limits in each round. Their values will vary independently between you and it and from round to round, so you will not be able to figure out one value from the other values, either in the current decision situation or in any future situation.

The values of your and the computer's targets, lower limits, and upper limits will not be openly displayed. Instead they will be hidden in "closed" boxes on your screen. You will be able to open any box just by POINTING AT (moving the cursor into) it with the mouse and LEFT-clicking the mouse.

You may open as many or as few boxes as you wish, as often and for as long as you wish, in any order. However, you may open only one box at a time. Before you can open a new box, you will have to close the previous box by RIGHT-clicking the mouse; this works no matter where the cursor is on your screen.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 21. Closed-boxes explanation, continued]

During the decision situations in the experiment, YOU ARE NOT ALLOWED TO WRITE.

If you do not remember the number in a box whose value you would like to know, just open the box again.

If you have trouble doing calculations, we have lent you a hand calculator or a printed multiplication table for the targets and (whole number) guesses.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 22. Introduction to sample screen display with boxes closed]

SAMPLE DECISION SITUATION WITH BOXES CLOSED

The next screen presents the same display as before, but with the boxes closed.

USE THE MOUSE TO PRACTICE OPENING AND CLOSING BOXES UNTIL YOU FEEL COMFORTABLE WITH THE PROCEDURE. THEN MOVE ON TO THE FOLLOWING SCREEN BY ENTERING A GUESS (ANY WHOLE NUMBER OR DECIMAL FROM 0 TO 1000) AND CONFIRMING IT.

For further explanation, raise your hand.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 23. Sample screen display with boxes closed (otherwise same as screen 14)]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	200	0.8	800

Sample Decision Situation. Enter your guess (a number from 0 to 1000).

Keyboard Entry/Type Response	Current Response
Enter this box and click a mouse button to confirm your guess.	

[R/TS screen 24. Intermediate screen]

INTERMEDIATE SCREEN

After each round, you will see a screen telling you to proceed to the next round only when you are ready. If you wish, you may rest before proceeding. However, we ask you not to rest DURING a round.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 25. Money payment]

MONEY PAYMENT

Once you have confirmed your guess for a round, you will not be able to change your guess for that round. After you have chosen your guesses for all 16 rounds, your payment will be determined according to the number of points you earned, given your and the computer's guesses, as follows:

Five of the 16 rounds will be selected at random, and you will be paid \$0.04 **[York: 2 pence]** per point for your points earned in those rounds. The rounds will be selected as follows. Tokens numbered 1 to 16 will be placed in a container and shaken. You will then draw five tokens at random, and the numbers you draw will be the rounds for which you are paid for your points.

Suppose, for example, that in the five rounds selected at random, you earned a total of 1000 points. At \$0.04 **[York: 2 pence]** per point you would then receive \$40 **[York: 20 pounds]**.

All the money that you earn is yours to keep, and will be paid to you in private, in cash, after today's session.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS screen 26. Introduction to Understanding Test, Part 2]

UNDERSTANDING TEST, PART 2

Before you start choosing your guesses in the decision situations in the experiment, you must take Part 2 of the Understanding Test, which will test your understanding of the rule explained above by which the computer chooses its guesses. After you finish this part of the test, it will be graded.

YOU WILL ONLY BE ALLOWED TO CONTINUE IN THE EXPERIMENT IF YOU HAVE ANSWERED ALL THE QUESTIONS CORRECTLY, IN WHICH CASE YOU WILL EARN AN ADDITIONAL \$5 JUST FOR PASSING PART 2 OF THE TEST.

You may write during the Understanding Test, but you will NOT be allowed to write during the decision situations in the experiment.

PLEASE TURN to the page at the end of your handout headed UNDERSTANDING TEST, PART 2, which contains the test questions. THEN MOVE ON TO THE NEXT SCREEN, which displays Decision Situation 1 for the test.

DO NOT MOVE ON TO DECISION SITUATION 2 BEFORE YOU HAVE WRITTEN DOWN YOUR ANSWERS FOR DECISION SITUATION 1. AFTER YOU HAVE WRITTEN DOWN YOUR ANSWERS FOR DECISION SITUATION 2, PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT. DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO CONTINUE.

(Click on the bar at the bottom of this screen to move on to the next screen)

[The "next screen" is R/TS screen 27 below]

[Variations for R/TSEq, R/TSL1, R/TSL2, R/TSL3, R/TSD1, and R/TSD2 are now given in sequence]

[R/TSEq handout, page 7]

UNDERSTANDING TEST, PART 2

Subject Identification Number _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) Are the guesses 400 for you and 600 for the computer in EQUILIBRIUM? Answer Yes or No. _____ **[No]** If you answered No, explain why not.

[400 is dominated (you could earn more points by guessing > 400 okay)]

B) Find YOUR equilibrium guess. _____ **[720]**

C) Find THE COMPUTER'S equilibrium guess. _____ **[600 (> 600 okay)]**

D) What is the LOWEST of your guesses that are **NOT** DOMINATED for you? _____
[480]

E) What is the HIGHEST of your guesses that are **NOT** DOMINATED for you? _____
[720]

F) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ **[400 (< 400 okay)]**

G) What is the HIGHEST of the computer's guesses that are **NOT** DOMINATED for it? _____ **[600 (> 600 okay)]**

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

H) Are the guesses 600 for you and 800 for the computer in EQUILIBRIUM? Answer Yes or No. _____ **[No]** If you answered No, explain why not.

[The computer could earn more points by guessing 720 (> 640 okay)]

I) Find YOUR equilibrium guess. _____ **[400 (< 400 okay)]**

J) Find THE COMPUTER'S equilibrium guess. _____ **[480]**

K) What is the LOWEST of your guesses that are **NOT** DOMINATED for you? _____
[400 (< 400 okay)]

L) What is the HIGHEST of your guesses that are **NOT** DOMINATED for you? _____
[600 (> 600 okay)]

M) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ **[480]**

N) What is the HIGHEST of the computer's guesses that are **NOT** DOMINATED for it? _____ **[720]**

YOU HAVE NOW COMPLETED PART 2 OF THE UNDERSTANDING TEST.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR TEST.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of R/TSEq handout, page 7]

[R/TSL1 Handout page 4]

UNDERSTANDING TEST, PART 2

Subject Identification Number _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) What will THE COMPUTER ("s/he") guess, on average? _____ **[500]**

B) Which of YOUR guesses gives you as many points as possible, if the computer guesses its average guess from question A? _____ **[600]**

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

C) What will THE COMPUTER ("s/he") guess, on average? _____ **[600]**

D) Which of YOUR guesses gives you as many points as possible, if the computer guesses its average guess from question C? _____ **[480]**

YOU HAVE NOW COMPLETED PART 2 OF THE UNDERSTANDING TEST.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR TEST.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of R/TSL1 Handout page 4]

[R/TSL2 handout, page 4. L2 Understanding Test, Part 2]

UNDERSTANDING TEST, PART 2

Subject Identification Number _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) What will THE COMPUTER ("s/he") assume that YOU will guess, on average?
_____ [500]

B) Which of THE COMPUTER'S guesses gives it as many points as possible, if YOU guess your average guess from question A? _____ [600]

C) Which of YOUR guesses gives you as many points as possible, if THE COMPUTER guesses as in the answer to question B? _____ [720]

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

D) What will THE COMPUTER ("s/he") assume that YOU will guess, on average?
_____ [500]

E) Which of THE COMPUTER'S guesses gives it as many points as possible, if YOU guess your average guess from question D? _____ [600]

F) Which of YOUR guesses gives you as many points as possible, if THE COMPUTER guesses as in the answer to question E? _____ [480]

YOU HAVE NOW COMPLETED PART 2 OF THE UNDERSTANDING TEST.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR TEST.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of R/TSL2 handout, page 4]

[R/TSL3 handout, page 4. L3 Understanding Test, Part 2]

UNDERSTANDING TEST, PART 2 **Subject Identification Number** _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) What will THE COMPUTER ("s/he") assume about what YOU will assume about what THE COMPUTER will guess on average? _____ [500]

B) What will THE COMPUTER assume about which of YOUR guesses gives you as many points as possible, if THE COMPUTER guessed its average guess from question A?
_____ [600]

C) Which of THE COMPUTER's guesses gives it as many points as possible, if YOU guess your guess from question B? _____ [600 (> 600 okay)]

D) Which of YOUR guesses gives you as many points as possible if THE COMPUTER guesses its guess from question C? [720]

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

E) What will THE COMPUTER ("s/he") assume about what YOU will assume about what the computer will guess on average? _____ [600]

F) What will THE COMPUTER assume about which of YOUR guesses gives you as many points as possible, if the computer guessed its average guess from question A)? _____ [480]

G) Which of THE COMPUTER'S guesses gives it as many points as possible, if YOU guess your guess from question F?_____ [576]

H) Which of YOUR guesses gives you as many points as possible, if THE COMPUTER guesses its guess from question G?_____ [460.8 (460 or 461 okay)]

[End of R/TSL3 handout, page 4]

[R/TSD1 handout, page 4. D1 Understanding Test, Part 2]

UNDERSTANDING TEST, PART 2

Subject Identification Number_____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ [400 (< 400 okay)]

B) What is the HIGHEST of the computer's guesses that are **NOT** DOMINATED for it? _____ [600 (> 600 okay)]

C) If the computer is equally likely to make any of its adjusted guesses that are **NOT** DOMINATED for it, what will the computer guess, on average? _____ [500]

D) Which of your guesses gives you as many points as possible, if the computer guesses its average guess from question C? _____ [600]

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

E) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ [480]

F) What is the HIGHEST of the computer's guesses that are **NOT** DOMINATED for it? _____ [720]

G) If the computer is equally likely to make any of its adjusted guesses that are **NOT** DOMINATED for it, what will the computer guess, on average? _____ [600]

D) Which of your guesses gives you the most points, if the computer guesses its average guess from question G? _____ [480]

YOU HAVE NOW COMPLETED PART 2 OF THE UNDERSTANDING TEST.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR TEST.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of R/TSD1 handout, page 4]

[R/TSD2 handout, page 4. D2 Understanding Test, Part 2]

UNDERSTANDING TEST, PART 2

Subject Identification Number _____

PLEASE WRITE YOUR SUBJECT IDENTIFICATION NUMBER IN THE UPPER RIGHT HAND CORNER OF THIS PAGE NOW. Then use the displays on your screen to write down your answers for the questions. You may write during the Understanding Test.

QUESTIONS:

In Decision Situation 1:

A) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ [400 (< 400 okay, particularly 240)]

B) What is the HIGHEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ [600 (> 600 okay, particularly 960)]

C) What is the LOWEST of your guesses that are **NOT** DOMINATED for you? ____ [480]

D) What is the HIGHEST of your guesses that are **NOT** DOMINATED for you? ____ [720]

E) What is the LOWEST of the computer's ("her/his") REMAINING guesses (after eliminating the computer's DOMINATED GUESSES as in your answers to questions A) and B)) that **DOES NOT** BECOME DOMINATED for it after eliminating your DOMINATED GUESSES as in your answers to questions C) and D)? _____ **[576]**

F) What is the HIGHEST of the computer's ("her/his") REMAINING guesses (after eliminating the computer's DOMINATED GUESSES as in your answers to questions A) and B)) that **DOES NOT** BECOME DOMINATED for it after eliminating your DOMINATED GUESSES as in your answers to questions C) and D)? _____ **[600 (> 600 okay, particularly 864)]**

G) If the computer is equally likely to make any of its guesses between its lowest and highest (ADJUSTED) guesses from your answers to E and F, what will the computer guess, on average? _____ **[588]**

H) Which of your guesses gives you as many points as possible, if the computer guesses its average guess from question G? _____ **[705.6]**

PLEASE MOVE ON TO THE NEXT SCREEN, WHICH DISPLAYS DECISION SITUATION 2.

In Decision Situation 2:

I) What is the LOWEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ **[480]**

J) What is the HIGHEST of the computer's ("her/his") guesses that are **NOT** DOMINATED for it? _____ **[720]**

K) What is the LOWEST of your guesses that are **NOT** DOMINATED for you? _____ **[400 (< 400 okay, particularly 320)]**

L) What is the HIGHEST of your guesses that are **NOT** DOMINATED for you? _____ **[600 (> 600 okay, particularly 640)]**

[End of R/TSD2 handout, page 4]

[R/TSD2 handout, page 5]

M) What is the LOWEST of the computer's ("her/his") REMAINING guesses (after eliminating the computer's DOMINATED GUESSES as in your answers to questions I) and J)) that **DOES NOT** BECOME DOMINATED for it after eliminating your DOMINATED GUESSES as in your answers to questions K) and L)? _____ **[480]**

N) What is the HIGHEST of the computer's ("her/his") REMAINING guesses (after eliminating the computer's DOMINATED GUESSES as in your answers to questions I) and J)) that **DOES NOT** BECOME DOMINATED for it after eliminating your DOMINATED GUESSES as in your answers to questions K) and L)? _____ **[720]**

O) If the computer is equally likely to make any of its guesses between its lowest and highest (ADJUSTED) guesses from your answers to M and N, what will the computer guess, on average? _____ [600]

P) Which of your guesses gives you as many points as possible, if the computer guesses its average guess from question O? _____ [480]

YOU HAVE NOW COMPLETED PART 2 OF THE UNDERSTANDING TEST.

RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU, AND REMAIN IN YOUR SEAT.

AN EXPERIMENTER WILL COME TO COLLECT YOUR TEST.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.

DO NOT GO ON BEFORE YOU ARE INSTRUCTED TO CONTINUE.

[End of R/TSD2 handout, page 5]

[R/TS screen 27. Decision situation 1 for Understanding Test, Part 2, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	200	1.2	800
Her/His Limits & Target	400	1.2	600

Decision Situation 1

Move on

[R/TS screen 28. Decision situation 2 for Understanding Test, Part 2, boxes closed]

	Lower Limit	Target	Upper Limit
Your Limits & Target	400	0.8	600
Her/His Limits & Target	400	1.2	800

Decision Situation 2

Move on

[R/TS screen 29. Finale]

You have now completed Part 2 of the Understanding Test.

PLEASE RAISE YOUR HAND UNTIL THE EXPERIMENTER SEES YOU,
AND REMAIN IN YOUR SEAT.

An experimenter will come to collect your test.

YOU WILL THEN TAKE A SHORT BREAK, IN YOUR SEAT, BEFORE CONTINUING.
DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO CONTINUE.

(Click on the bar at the bottom of this screen to exit the instructions)

[Subjects' tests are graded, and subjects who fail are dismissed. Subjects who pass are told that they have earned an additional \$5, and that they may continue.]

[The following review screens immediately precede the games.]

[R/TS review screen 1. Initial screen]

WELCOME BACK!

PLEASE WAIT UNTIL THE EXPERIMENTER TELLS YOU TO START

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS review screen 2. Review]

We will now have a brief review, in preparation for the decision situations in the experiment.

It is important to remain silent and not to look at other people's work. If you have any questions or need assistance of any kind, please raise your hand, and an experimenter will come to you.

You may NOT write during the rest of the experiment. If you do not remember the number in a box whose value you would like to know, just open the box again. If you have trouble doing calculations, we have lent you a hand calculator or a printed multiplication table for the targets and (whole number) guesses.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS review screen 3. Review, continued]

The experiment has 16 rounds. Each round concerns a DECISION SITUATION, in which you and the computer ("s/he") separately and independently make decisions called GUESSES. The computer chooses its guesses in each decision situation by following a rule explained on your handout. Together, your and the computer's guesses determine the numbers of POINTS that you earn, and that the computer would earn, in a round, which may be different.

After you have confirmed your guess for a round, you cannot change your guess for that round. Neither your nor the computer's guess in a round will affect the decision situations you or the other participants face or the computer's guesses in the rest of the experiment. Your identity will never be revealed.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS review screen 4. Review, continued]

The decision situations are identical for you and the computer, except that you and the computer each have your own TARGET, LOWER LIMIT, and UPPER LIMIT in each round. These targets and limits may be different for you and the computer, and they may change from round to round. Both you and the computer will have the same access to your and the computer's targets and limits.

After each round, the computer will automatically record your and the computer's guesses. If necessary, your (respectively, the computer's) guess will be automatically adjusted up to your (its) lower limit or down to your (its) upper limit. However, you will not be given any indication of adjustments during the experiment, if they occur.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS review screen 5. Review, continued]

In each round, you will earn whichever is larger, either 0 points or 200 points minus the distance between YOUR adjusted guess and the product of YOUR

target times THE COMPUTER'S adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth (1/10th) the distance between YOUR adjusted guess and the product of YOUR target times THE COMPUTER'S adjusted guess. The computer would earn whichever is larger, either 0 points or 200 points minus the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess, PLUS whichever is larger, either 0 points or 100 points minus one-tenth (1/10th) the distance between ITS adjusted guess and the product of ITS target times YOUR adjusted guess.

This way of determining the number of points that you earn, and that the computer would earn, makes the number you earn larger, the closer your adjusted guess is to your target times the computer's adjusted guess; and makes the number the computer would earn larger, the closer its adjusted guess is to its target times your adjusted guess.

You will not be told your point earnings until after the entire experiment is completed. EARNING MORE POINTS INCREASES YOUR MONEY PAYMENT AT THE END OF THE EXPERIMENT, AS WE HAVE EXPLAINED.

(Click on the bar at the bottom of this screen to move on to the next screen)

[R/TS review screen 6. Start of experiment]

You are now ready to start the 16 decision situations in the experiment. After each round, you will see a screen telling you to proceed to the next round only when you are ready. If you wish, you may rest before proceeding. However, we ask you not to rest DURING a round.

(Click on the bar at the bottom of this screen to start the experiment)

[This completes the R/TS Instructions.]

OUTLINE OF INSTRUCTIONS

Open boxes: Explain display, guesses and practice, test understanding of display, explain concepts (R/TS only), explain closed boxes

Closed boxes: Practice rounds (Baseline only), Understanding Test, Part 2 (R/TS only)

Games used (targets and limits all different than in experiment):

Introduction (Baseline and R/TS):

game 1: 400 0.8 600, 200 0.8 800; no dominance for you, but dominance solvable in (2,3) iterations; equilibrium at lower limit (boxes open; then practicing choices)

Understanding Test (Baseline and R/TS Part 1; subjects allowed to write):

game 2: 200 1.2 600, 400 0.8 800; dominance solvable in (10,9) iterations; equilibrium at lower limit (boxes open, practicing choices)

Practice rounds (Baseline only; boxes closed, practicing choices; subjects allowed to write; complete mix of target patterns and equilibrium guesses; order as is, not randomized)

game 1: 200 1.2 800, 400 1.2 600; dominance solvable in (5,4) iterations; equilibrium at upper limit

game 2: 400 0.8 600, 400 1.2 800; dominance solvable in (20+,20+) iterations, equilibrium at lower limit

game 3: player-symmetric counterpart of game 2

game 4: player-symmetric counterpart of game 1

Understanding Test, Part 2 (R/TS only, all decision rules; boxes closed, practicing choices; subjects allowed to write; mix of dominance and dominance-solvability, and of equilibrium and target patterns):

game 1: same as Baseline practice round 1; equilibrium at upper limit

game 2: same as Baseline practice round 2; equilibrium at lower limit

APPENDIX B: DESCRIPTION OF PILOTS

The main Baseline and Robot/Trained Subjects treatments in our experiment were preceded by four pilot sessions, three at the University of California, San Diego, on 1-2 March 2001 and 1 June 2001; and one at the Hong Kong University of Science and Technology on 15 June 2001. This Appendix describes the pilots and how their results influenced our designs for the main treatments.

All four pilots closely resembled the main treatments in structure, with a series of 16 guessing games with targets and limits that yielded strategic structures similar to those in the main treatments. There were two main differences. First, the pilots used two rather than four possible target values, 0.5 and 1.5. This yields less separation of types' guesses than in the main treatments. It also implies that all games but those in which both targets are 1.5 have equilibria determined by players' lower limits. By contrast, the four-target design of the main treatments yields some games in which one player's target is less than one and the other's is greater than one that have equilibria determined by players' lower limits (for example, games with targets 0.7 and 1.3), and other such games have equilibria determined by players' upper limits (for example, targets 0.7 and 1.5). Second, the pilots used a different display, with columns ordered lower limit, upper limit, and target instead of lower limit, target, and upper limit as in the main treatments (but with Your Limits & Target in the first row, as in the main treatments).

The UCSD sessions on 1-2 March 2001 were R/TS treatments, with a total of three EQ subjects, three L1, three L2, and four D1 (which is feasible in R/TS treatments because R/TS subjects do not interact). These preliminary sessions used a four-page handout in place of the interactive Instructions file developed for the main R/TS treatments. Subjects were motivated by the following paragraph:

Although you will not be paid, we ask you to try to follow your assigned decision rule as closely as possible. Our goal in this pilot experiment is to explore the difficulty of using our interface to apply various decision rules to our guessing games.

The UCSD and HKUST sessions on 1 June and 15 June 2001 were Baseline treatments with eight and three subjects, respectively. These subjects went through interactive instructions as in the main Baseline treatment, and were motivated by asking them to try to maximize their point payoffs.

In the UCSD R/TS sessions on 1-2 March 2001, some subjects performed poorly, which led us to clarify our instructions and to change the order in which R/TS Eq subjects are taught the methods for identifying equilibrium guesses, from Iterated Dominance, Best Response Dynamics, Equilibrium-Checking to the reverse order. We did this because, although all methods are theoretically applicable to all of our games, Iterated Dominance is by far the least practical, usually requiring ten or more rounds; and we feared that many subjects would be deterred by its complexity from reading about the more practical methods that followed.

In the UCSD and HKUST Baseline sessions on 1 and 15 June 2001, we were fortunate to have a spontaneously diverse mixture of types (as estimated by least squares for guesses alone): three *L1*, one *L2*, two *D1*, and two *Equilibrium* at UCSD, and one each *L1*, *L2*, and *Equilibrium* at HKUST. These treatments led us to change the games to increase separation of types' guesses and strengthen subjects' payoff incentives to make, and to change the display to reduce the possibility of "accidentally" adjacent look-ups of lower and upper limits.

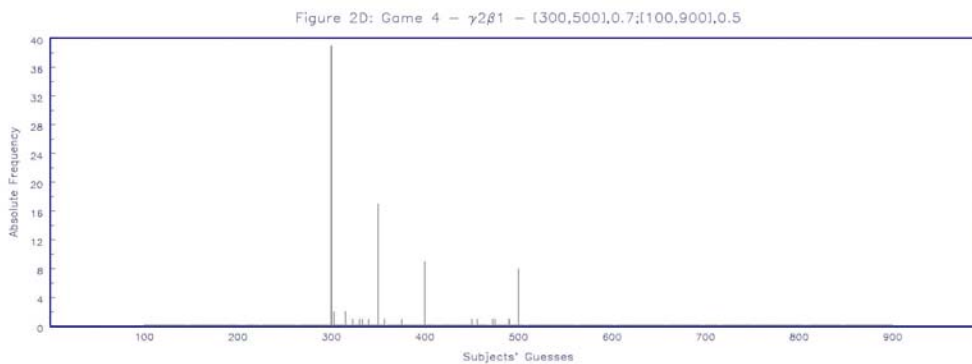
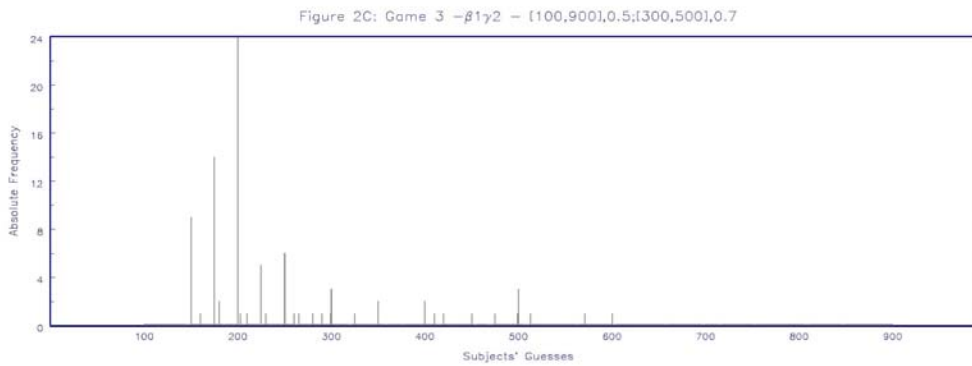
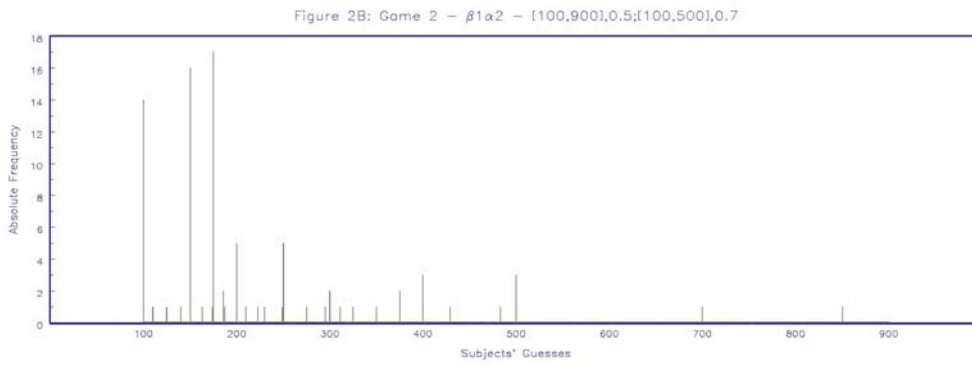
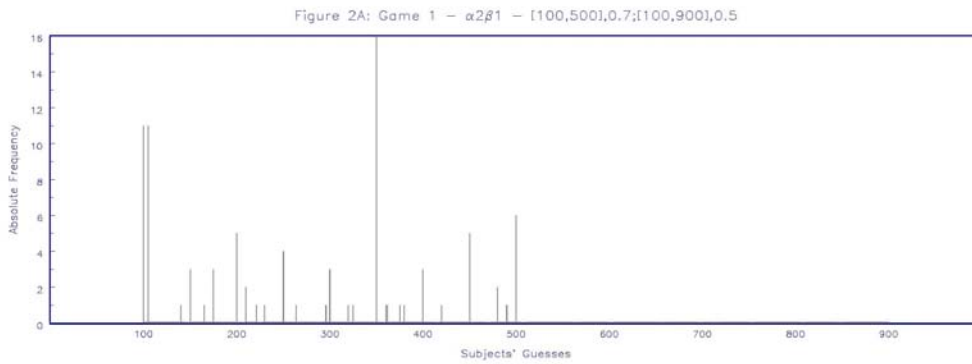
APPENDIX C. PRELIMINARY STATISTICAL TESTS

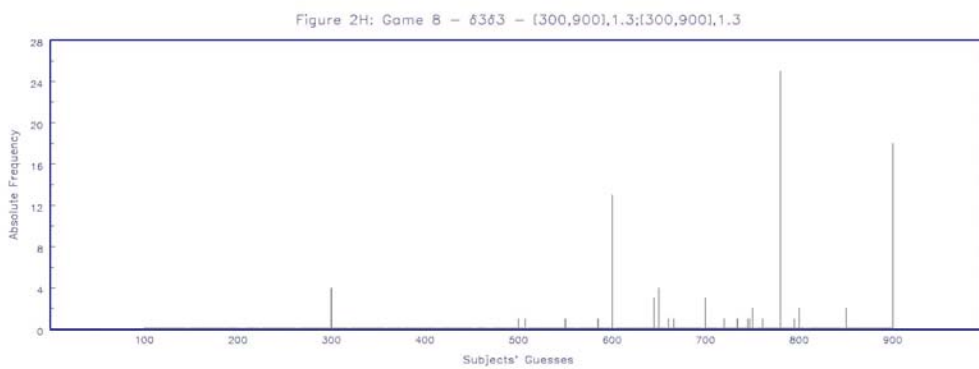
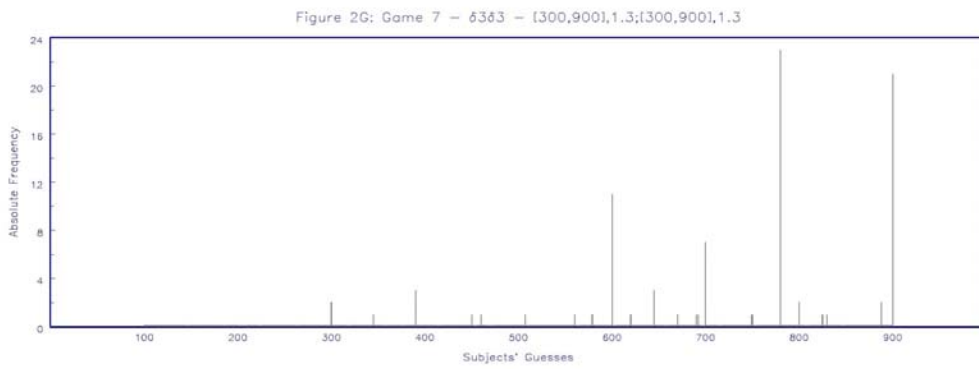
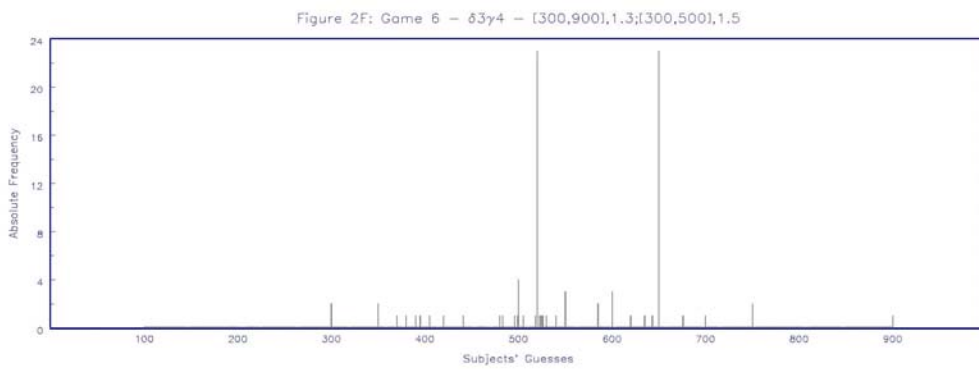
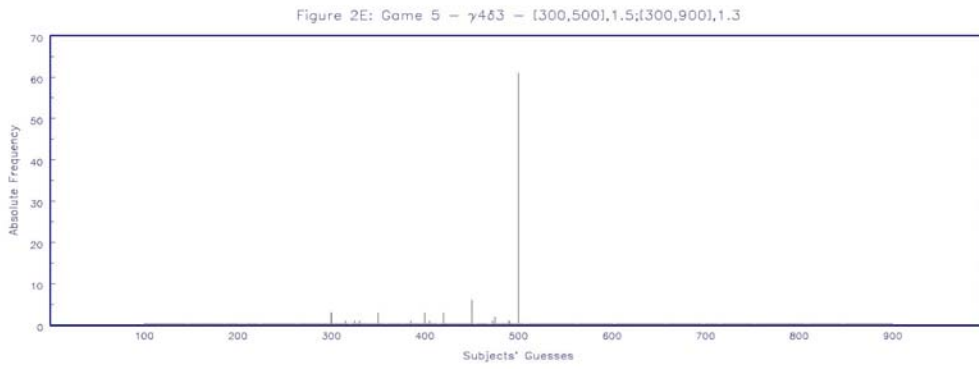
In this appendix we report tests for differences in subjects' adjusted guesses across the OB treatment and the four sessions of the Baseline treatment. Because the tests compare data from independent samples with no presumption about how they differ, we use exact two-sample Kolmogorov-Smirnoff tests, pairing the five Baseline and OB sessions in all possible ways and, for each pair, conducting the tests separately for each game. This yields 11 p -values less than 5% in a total of 160 tests (5 sessions taken two at a time, times 16 games per session), a bit more than one would expect by chance ($11/160 = 6.9\%$) but distributed evenly across sessions and games. Similarly, comparing the four Baseline sessions pooled with the OB session yields one p -value less than 5% in 16 tests. (Conducting the tests this way would be justified only if subjects' guesses were independent across games and session pairs, which is unlikely in the first case and impossible in the second; but correcting for dependence is impractical. These tests are presented only as a way to gauge the differences across sessions and treatments.

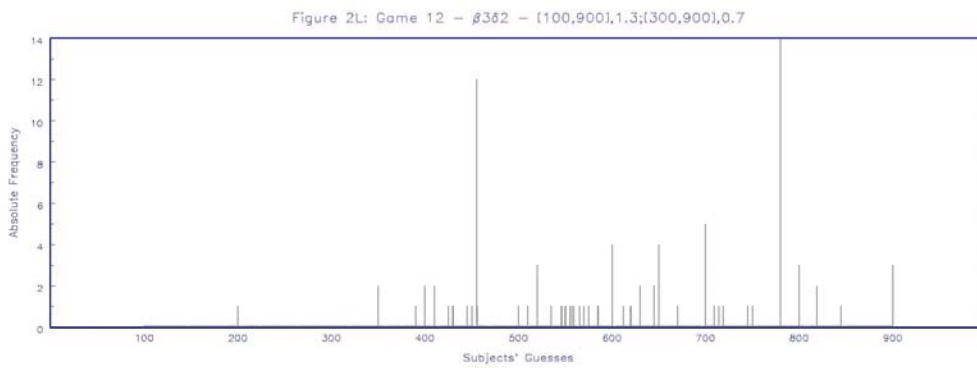
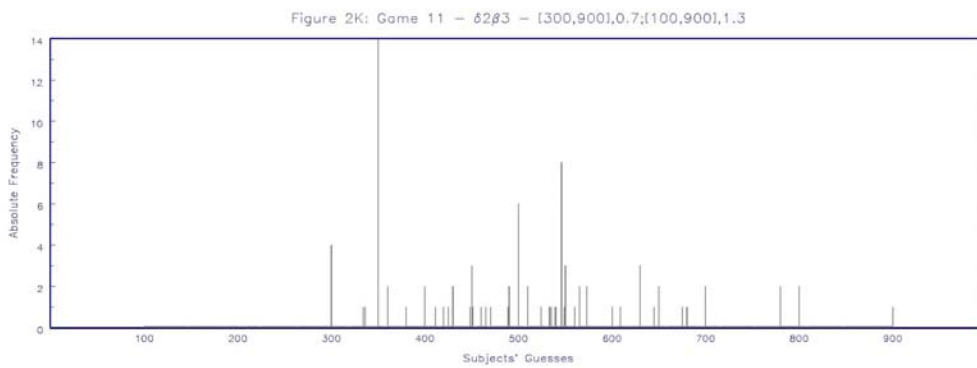
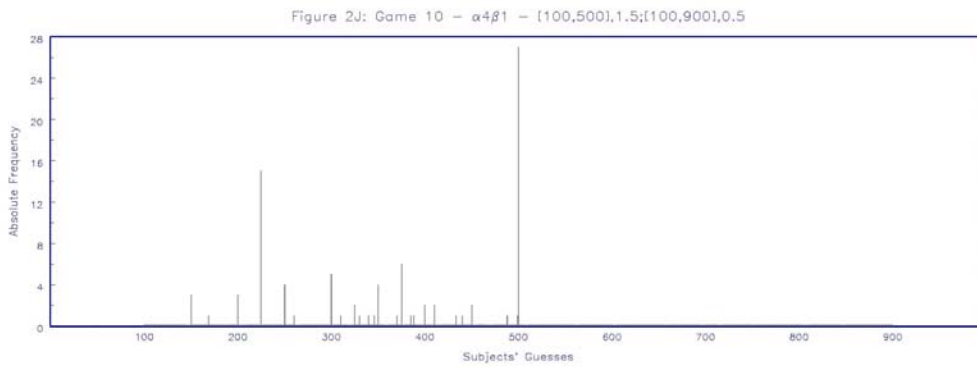
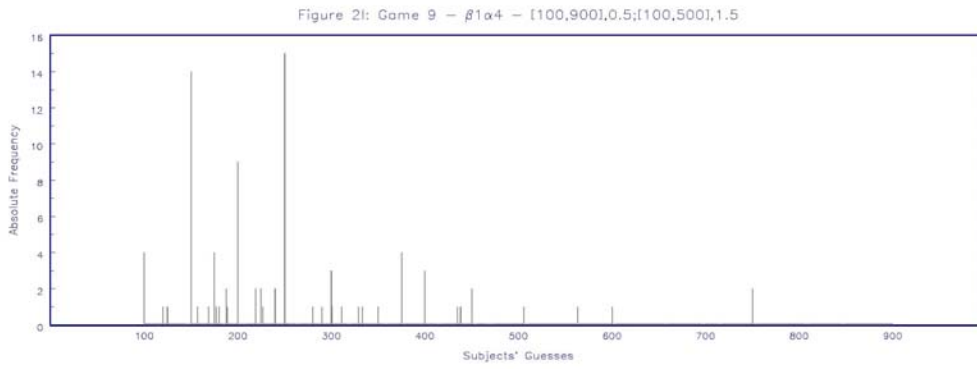
We also found no significant evidence that subjects' guesses in practice rounds differed across the Baseline and OB sessions.) This suggests that subjects' guesses are not strongly affected by the need to look up payoff parameters, so our results should be representative of those obtained by standard methods. We conclude that differences across Baseline sessions or between Baseline and OB treatments are small enough to justify pooling the data on guesses across sessions.

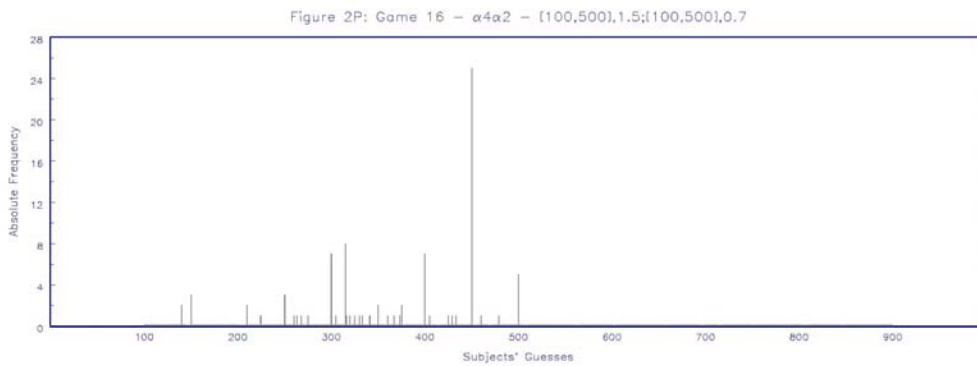
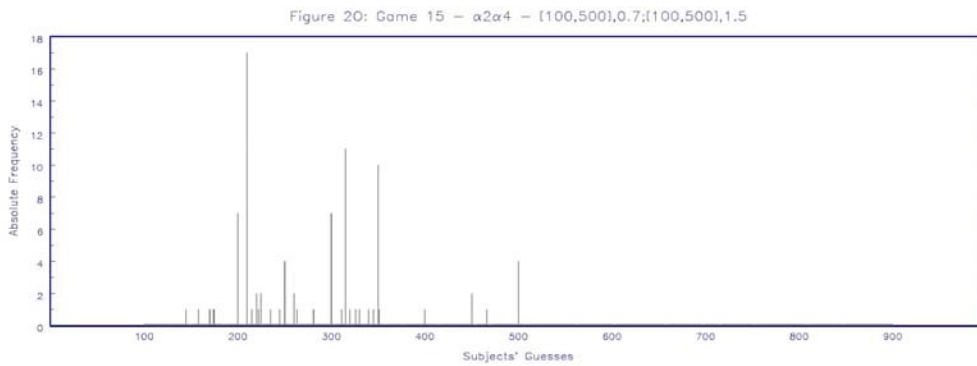
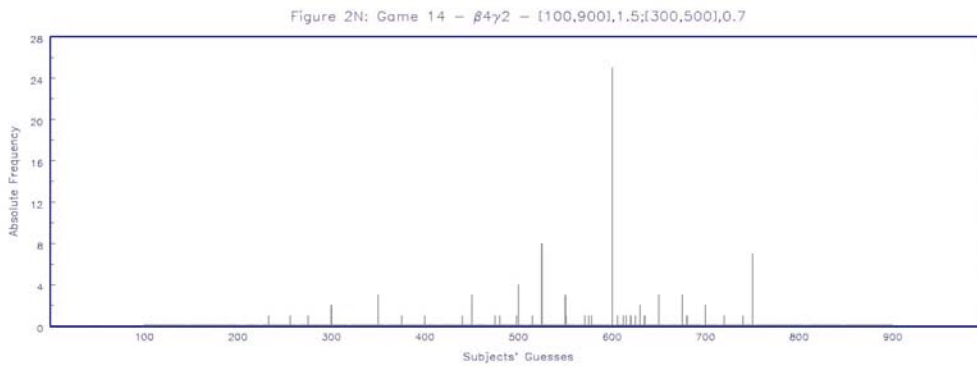
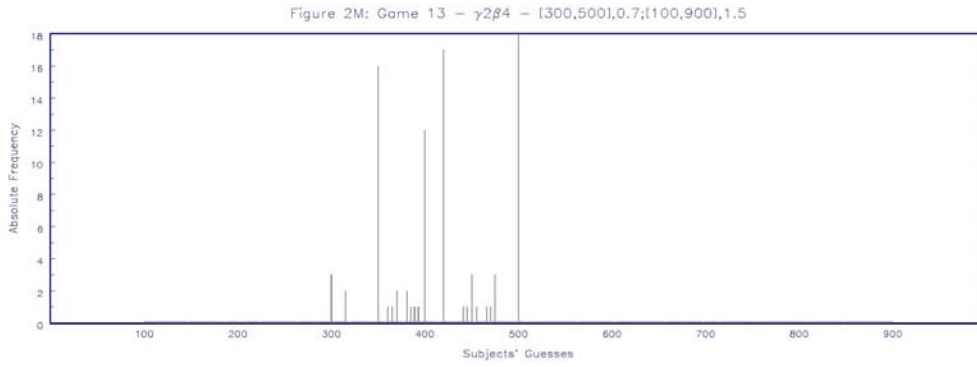
The tests also reveal no significant difference between Baseline and OB subjects' pooled guesses in the symmetric game, $\delta 3\delta 3$, when played third and twelfth in the sequence (see also Figures 2G-2H, Appendix D). This suggests that the effects of introspective learning without feedback are small enough to justify analyzing the data without considering the order of play.

APPENDIX D. FIGURES SHOWING SUBJECTS' AGGREGATE GUESS DISTRIBUTIONS, GAME BY GAME









Games listed in order played, with their targets and limits, and types' guess and search implications:

Game	<i>ai</i>	<i>bi</i>	<i>pi</i>	<i>aj</i>	<i>bj</i>	<i>pj</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>D1</i>	<i>D2</i>	<i>E</i>	<i>S</i>
1	100	900	1.5	300	500	0.7	600	525	630	600	611.25	750	630
2	300	900	1.3	300	500	1.5	520	650	650	617.5	650	650	650
3	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900
4	300	900	0.7	100	900	1.3	350	546	318.5	451.5	423.15	300	420
5	100	500	1.5	100	500	0.7	450	315	472.5	337.5	341.25	500	375
6	100	500	0.7	100	900	0.5	350	105	122.5	122.5	122.5	100	122
7	100	500	0.7	100	500	1.5	210	315	220.5	227.5	227.5	350	262
8	300	500	0.7	100	900	1.5	350	420	367.5	420	420	500	420
9	300	500	1.5	300	900	1.3	500	500	500	500	500	500	500
10	300	500	0.7	100	900	0.5	350	300	300	300	300	300	300
11	100	500	1.5	100	900	0.5	500	225	375	262.5	262.5	150	300
12	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900
13	100	900	1.3	300	900	0.7	780	455	709.8	604.5	604.5	390	695
14	100	900	0.5	300	500	0.7	200	175	150	200	150	150	162
15	100	900	0.5	100	500	0.7	150	175	100	150	100	100	132
16	100	900	0.5	100	500	1.5	150	250	112.5	162.5	131.25	100	187

MouseLab box numbers:

	<i>a</i>	<i>p</i>	<i>b</i>
You (<i>i</i>)	1	2	3
S/he (<i>j</i>)	4	5	6

Types' search implications:

<i>L1</i>	{[4,6],2}
<i>L2</i>	{([1,3],5),4,6,2}
<i>L3</i>	{([4,6],2),1,3,5}
<i>D1</i>	{(4,[5,1], (6,[5,3]),2}
<i>D2</i>	{(1,[2,4]),(3,[2,6]),(4,[5,1],(6,[5,3]),5,2}
<i>Eq</i>	{[2,5],4} if pr. tar. < 1, {[2,5],6} if > 1

First 1-2 digits of subject ID number identifies session type: 1-4 Baseline, 5 OB, 6-20 R/TS.

Numbers of guesses correct for a type within 0.5 and within 25 are listed only if the latter is > 6 for some type.

* in a subject's look-up sequence means that either the subject entered a guess without immediately confirming it, or that he tried to confirm a guess outside the permitted range 0-1000, and so had to enter a new guess.

B1 guesses 1/31/2002.
Adjusted guess/entered guess when differs

Game/Sub	101	102	103	104	105	106	108	109	110	112	113	115	118
1	600	300	450	600	350	750	525	275	675	750	375	550	600
2	520	520	523	520	370	520	520	700	650	650	405	550	440.5
3	780	780	600	780	600	780	900	600	600	300	600	800	780
4	350	420	300	350	500	550	546	675	500	300	500	550	350
5	450	450	224	450	400	450	315	140	400	400	300	300	450
6	350	350	210	350	375	100	105	450	450	500/700	490	250	350
7	210	210	300	210	350	170	315	450	315	200	500	300	210
8	350	350	400	350	385	400	420	400	450	300	300	400	350
9	500	300	400	500	500	500	500	450	450	500	450	400	500
10	350	500	350	350	350	300	350	350	500	300	500	330	350
11	500	500/600	500	500	400	500	225	385	450	500	500	250	500
12	780	780	600	780	600	390	900	600	600	600	600	700	780
13	780	780	600	780	500	450	455	400	585	900	700	575	780
14	200	200	225	250	225	250	175	500	325	300	410	200	200
15	300	700	325	150	200	100	175	375	500	100	300	150	150
16	150	600	301	200	200	250	150	400	400	100	400	250	150

Type	L1	L1	L1	Eq/L1/L2	L2	Eq	L1/L2	L1
#right(0.5)	15	10	14	5/5/3	13	7	2/1	15
Type	L1	L1	L1	L2/Eq/L1	L2	Eq	L2/L1	L1
#right(25)	15	10	14	7/5/5	13	7	9/4	15

B1 look-ups
Game

1	146246	132456	123456	136462	251436	123646	135642	123465	123456	123654	123524	123456	246134
	213	636541	112345	426646	546412	132136		451245	465512	456256	613246	465231	626241
		266546	643545	254462		542526		126451	321544	456321	521235	235654	32*135
		456231	455112	*56413		464653		24124*	651231	132546	246246	562123	
		232223	346551	2		26263		31	254655	5	652651	2*4562	
		653263	111514						245655		23	312	
		235534	554612						213212				
		562221	32*123						654245				
		322422	456212						665423				
		454452	311211						645652				
		13	14*456						5566				
			345365										
			356										

2	46213	132456	123456	426131	143625	564446	135642	132465	123145	132564	145236	123456	246262
		562123	145236	346246	634264	512323	3	612321	645664	564523	461352	462312	2131
		212146	541512	426424	6	654231		3245	132455	214563	246	365645	
		216123	545111	264213					646231	213126		6231	
		215522	414445	*41365					62*13				
		212146	454212	45225									
		56	326541										
			25*152										
			514562										
			242122										
			125236										
			111222										
			121214										
			542444										
			241252										
			361212										
			564444										
			212544										
			244241										
			151561										
			212425										
			155146										
			2111*1										
			2111										
3	462*46	123546	123456	463146	125143	645621	135642	123456	132456	123654	125412	123456	246242
		526631	123456	522242	613	232312	53	123453	412365	123654	36	456321	466413
		425556	213121	6321*1		365423			4132	*14253		23	*426
		46525	212364	3642		631				6			
			513*52										
			655232										
			154521										
			365										
4	462	132544	123645	136452	251436	445632	135642	123456	123456	122365	521346	121234	244641
		566545	512154	441364	4	153312	*	412456	456123	41414*	246213	564565	3
		645613	151464	261341		563231		51232	146512	214563	2546	412323	
		256452	524242	313446		232*1			315462			21	
		12462	1	132123					13				
				*1326									
5	462	465655	362541	132463	142536	564532	135462	112345	123123	123654	332546	123456	122242
		213214	215631	156424	125246	123532	*	666513	456461	123654	465132	521565	64213
		5236	512154	364626	2	162646		232213	346255	123654	465123	232145	
			212415	621423		465465		1	2132	123654		652	
			124321	46		531123				*63514			
			*45263			654262				125362			
						362123				512365			
						6523				412563			

6	461323	132456	123456	134642	143625	456321	135462	123456	123132	123654	254613	123456	246213
	1	221123	123456	524136	255225	236541	1*	451234	456452	123563		123456	25
		246544	215151	426241	63143	231254		654561	132465			526545	
		621346	221242	32*136		232122		232456	465123			656541	
		254	421246	45		1		6123	125465			2325	
			321544						542312				
			**5144						3				
			445										
7	462132	132132	123456	132146	251346	465632	135462	123456	132465	123654	254613	123456	246213
	5	465246	212321	341452	522	123321	*1364	123451	213465	123654	52	525	
		252313	512421	463121		235463		234556	411325	123654			
		456562	21265	321654		214565		45123	466445	12*314			
		654621				255123			562	456			
		23*241				6231							
		325251											
		346523											
		21232											
8	462* *4	132464	123456	136412	143625	456564	135462	123456	123456	132654	254364	112345	246213
	613	62*13	211232	461462	251434	563211		623451	123154	136542	65132	652314	
			525252	352414	6251	232123		12	564123			565642	
			122212	261236		656532						123456	
			214*3	45		632123						565623	
												235645	
9	46231	134652	123456	142631	251436	445632	135463	123456	123123	123654	123546	123456	246264
		232465	515212	321514	253	123564	315462	123456	456452	3*3265	565213	54231	2133*4
		354134	142563	264264		6123	312315		546123		46		6
		655323	212121	343			642365						
		632353	221521				426542						
		356423	424453				35643*						
		14611	656232										
			11112										
10	463121	132456	123456	145632	255136	123123	135462	123456	123456	123365	251364	123456	246213
	3	623232	132456	461321	425414	654123	135264	16	465421	456412	521346	123123	
		545336	152362	3*1345	324625	561456	213		321345	312312		456456	
		212354	141421	62		321232			656456	323121		541232	
		565132	214652			1			454654	*4		145612	
		122545	555211						652231			3	
		656465	242546										
		135221	112122										
		232123	123645										
		154665	652132										
		3* *123	112525										
		235465	122145										
		*33545	622121										
		465254	525424										
		563	142246										
			24										

11	46231	146512	123456	136421	251346	456213	132546	122345	123546	123654	251431	123456	246262
		336563	212522	364632	5	254651	213	612213	546545	521143	34652	412321	4213*4
		222564	541236	323		236544			612345	652132		234565	6
		265451	563			563214			612321	521345		213	
		32				562322				6			
						33							
12	134623	134652	123123	134625	251364	465456	135462	123456	123456	231145	251346	123245	242426
	1	321	545621	123313		321236	32	12	541231	632564	652	652312	2213*2
			2213			542316			23654			321	5
						541236							
						545654							
						123625							
						344							
13	46213	134625	123456	136414	251436	456321	135462	123451	123214	123654	254613	123214	246256
		523214	136452	246231	4152	236541	*	234154	564512	123654	2546	562354	264213
		566513	123456	542623		232564		6123	312365	123654		562321	
		125546	215241	1		566423			45242	123654		23456	
		213232	213265			21				653			
		3*4565	421112										
		462134	413425										
		656132	55										
		132546											
		546451											
		35212											
14	134624	146521	123546	132456	251436	456321	135446	123456	123235	231456	251436	123456	24613*
	6*642	356513	123541	413242	145632	231321	21	123	645132	265642	252541	542314	46
		3	335621	426224	61*	122333				3	134652	561234	
			462124	656442		213214					3	56542*	
			154121	213		565456						456123	
			46321			654563						212321	
						215236						421235	
						435622						654524	
						1							
15	462*13	134655	123654	135442	143625	456321	135462	122345	123654	123654	254136	123456	246135
		213546	156324	465442	654164	235641	1	6	456545	563213	52	352456	
		556563	563123	426464	621	123654			646521	654213		456545	
		553514	123456	*12434		562321			232164	654		456	
		651325	123654	6554		45641			56				
		461352	125463										
		1231*5	241										
		365											
16	134621	131324	123456	426134	256412	123654	135462	123456	132456	123654	251346	123456	246213
	35*462	654654	213212	264264	356163	565656	314652	5123	545642	123654	521436	545632	5*4621
	1*462	135646	4654	246542		231	1		123	123654	521425	123223	
		536253		213414						123654	36	212565	
		336221		264123						123654		456*12	
		413565		56								356545	
		456521											
		565456											

B2 guesses 4/19/2002am
Adjusted guess/entered guess when differs

Game/Sub	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
1	500	675	600	600	625	525	450	600	600	630	450	440	635	500	620	600	600	600	550	606
2	500	650	643	500	500	650	520	750	650	650	517.5	420	635	650	585	520	600	520	520	526
3	600	900	900	645	745	900	780	300	780	900	300	650	734	780	850	780	747	780	650	900
4	700	500	600	645	350	546	350	800	546	380	300	800	510	546	560	650	565	448	450	360
5	400	425	450	225	450	315	450	450	315	450	150	360	268	315	500	450	400	315	450	320
6	500	100	150	175	350	105	350	350	105	100	250	480	400	105	200	350	480	105	320	105
7	300	215	260	175	250	315	210	500	315	350	350	350	311	315	350	210	466	315	260	245
8	500	370	420	500/600	300	420	350	350	420	420	500/700	400	475	420	500	350	420	420	370	360
9	500	500	330	500	500	500	500	500	500	500	450	350	472	500	500	500/900	500/555	500	500	500
10	500	300	350	300	300/140	300	500	315	400	300	300	475	456	300/210	300	300/280	333	340	375	300
11	500	310	500/550	150	225	225	500	500	225	375	375	440	499	225	500	500/750	433	225	500	500
12	700	900	450	645	600	780	780	780	900	900	345	670	825	888	900	780	780	900	800	900
13	700	600	410	645	455	455	780	800	455	550	819	800	612	445	780	780	670	455	600	700
14	290	150	475	300	175	175	200	600	175	150	350	450	299	175	225	200	225	175	300	200
15	200	100	375	175	175	175	150	850	175	100	175	250	249	140	110	150	295	175	250	175
16	290	240	435	175	225	250	150	150	250	187.5	100	375	333	250	200	225	437.5	250	280	375

Type	Eq/D2/L3	L2/L1	L2	L1	L1	L2	L3/Eq/D2	L2	Eq	L1	L2	L2/L3/D2
#right(0.5)	8/7/7	6/4	15	14	8	13	9/9/8	11	6	13	11	6/4/4

Type	Eq/D2/L3	L1/L2	L2	L1	L1	L2	L3/D2/Eq	L2	Eq	L1	L2	L3/L2/D2
#right(25)	8/10/10	8/7	15	14	9	13	11/10/9	14	7	13	11	9/8/8

Subject 219 crashed in game 5 and was restarted. In games for which s/he entered two guesses, guesses and look-ups before the crash (bc) are used in the analysis and listed in the table. Both look-ups and guesses before and after (ac) the crash are listed in the look-up sequences, with g denoting guesses either bc or ac.

B2 look-ups
Game

1	125346	123456	123456	132456	123465	533146	124646	123546	132461	123456	121345	123462	135264	132464	123214	461346	121364	123456	bc:	132465
	251346	254613	315152	426246	2113*2	213	132462	5123	346132	123456	646521	351		655131	562135	256424	13	461325	123546	462135
	352	621342	564236	651356	366542		426426		13*134	213456	353546			464221	465523	62*213		532	425135	462311
		525		2	6		2		621354	254213	615146			214645	654532	131152			462134	2
									6	654	323242			421*13	124563				544564	
											262*14			466454	256541				213542	
											546536			6	232652				254522	
											212321				525522				545525	
											3				312565				213252	
															564232				456545	
															145565				213645	
															455444				212252	
															665664				122521	
															*21252				232546	
															545654				546545	
															12356				621324	
																			255212	
																			252222	
																			545212	
																			g:550	
																			ac:	
																			123546	
																			212312	
																			312354	
																			654562	
																			456421	
																			312121	
																			222546	
																			213252	
																			123456	
																			521232	
																			123212	
																			325456	
																			521235	
																			465521	
																			232546	
																			523123	
																			25465	
																			g:750	

2	123456	123456	132465	213456	136425	531462	124613	251436	134652	123456	123456	132465	256413	131246	123456	5462*1	123654	134625	bc:	132465
	461232	445613	315323	246135	462646	31		134613	1313*4	465562	512451	4652	515366	465132	545655	325466	513131	46213	123546	213246
	51346	255462	165662	133161	213242			25	621354	231654	464536		2	566326	654622		2313*1		314631	421346
		513565	6162	61	136461				6213	456*2	351524			264646	612626		235265		252562	5*56
		23			42621*						412265			26	256545		422		462225	
					3146						515254				623221				132125	
											2512*2				231326				452123	
											226252				322622				565256	
											456252				226526				452132	
											52				4212				315644	
																			562132	
																			122521	
																			235452	
																			126223	
																			212354	
																			521232	
																			225455	
																			464655	
																			213252	
																			1232	
																			g:520	
																			ac:	
3	134625	123456	132465	134625	136425	535164	246463	125314	461325	123455	122345	134652	134264	132645	123456	464613	123212	134625	bc:	132465
	131	123562	2	2	246346	2231	512413	613251	213*46	645612	663254	*	2**	213456	232121	25*515	365412	136452	123564	213465
		3			13			*1	5123	3	12			3313	321323	13	3654	231	512321	226231
															214564				332123	232*46
															552222				212564	1325
															332222				521355	
															323212				g:650	
															323*63				ac:	
															232322				123546	
															323232				521235	
															322				4565	
																			g:750	

4	134625	123456	132456	134625	134662	553165	124666	132546	146134	123456	123456	123465	113642	132554	123456	134646	123214	251436	bc:	134625
	213461	412346	364123	124566	542613	353164	4213	1325	613135	123456	561241	24136	534646	5622	521456	51324*	563214	461325	123564	462621
	3	546513	631552	151312	131623	231			213*13	123456	326*26		213126		221236	213132	561234	546135	521232	356462
		525621	315232	3456	*13264				461365	123456	565111		426135		546452	546466	654645	46	546532	*2132
		324613			6				2	123563	521522		422135		536545	4	522135		152134	
										643*1	4*1236		663514		621512		465451		625246	
											4		646264		212323		312512		213256	
													131513		256423		3		452123	
													546464		654556				212312	
													355421		655566				564521	
													135156		565632				232123	
													246226		145632				g:450	
													231*13		144565				ac:	
													135462		625654				123456	
															556655				545621	
															222221				312365	
															415562				524563	
															322563				212132	
															214563				254565	
															252122				452123	
															565656				212322	
															256566				125521	
															6				231232	
																			1254	
																			g:500	
5	123132	123245	123456	132465	134625	553164	246613	123546	461325	123456	123456	143652	136425	134612	123456	46462*	123123	134625	123564	134625
	465231	641365	325252	123515	132613	2231			13252*	123456	325412	52*	1*4262	554612	655665	132513	456456	462513	521232	213462
	4621	213546	35423	63	1362				452	123463	124*12		442651	1	533233	264	456456	465225	546521	622315
		5213								12456	3532				563226		465123	2	325321	645452
															563356		212521		54652	132525
															365262		355*13		452121	
															323322		*46		*5	
															232232					
															121232					
															125456					
															231233					
															23					
6	134625	123456	123456	134625	134625	253156	246312	123456	461313	123456	123456	143625	136425	132465	123545	251313	123642	134625	132564	134625
	2634	123135	256364	523246	624134	42431	463146	546221	546132	123456	265631	63*	342353	134545	656545	466443	146211	134652	132465	246213
		421	631642	16513	66		465123	3	*	451564	242531		135131	4521*1	256525	12642*	322135	1	231465	514613
			464123				2*246			3	*25		342354	254645	255255	133125	513212		312465	521231
			132315										533564	21346	322321		321232		563135	2*125
			564										235135		232215		123212		465254	
													6422		456215		312365		654562	
															633533		42*3		132246	
															535232				523325	
															212532				261465	
															123654				213235	
															536542				646513	
															5456				254652	
																			13465*	

7	123146	123456	123456	132465	134662	531231	124621	465452	135462	123456	123124	134625	136425	132465	123456	134625	123654	123465	132465	134652
	523146	452135	525636	24246*	252446	6413	3	123146	*1346	456123	562653		2*2464	22	223235	462*45	136421	22	213214	132462
		462132	42	134652	642136			523		654123	16*3		462542		636552		235532		652132	26213*
		5*13		4523	126136					*65421			564253		62662		123*45		132546	3645
					452621					3			1315**				612312		5*	
					*								426262				313231			
													135				*			
8	134625	123456	123456	132456	134652	531651	246134	125465	134651	123456	123536	134625	136425	134613	123456	426314	123645	134652	132456	134613
	23146	123456	123564	465132	132452	642	6	2213	3221*4	134564	652*	4613*	151354	254621	632165	6462*1	132513	461352	545652	246524
		465123		4	13				613	561232			264261		423366	364643	25213	13	135465	621325
		546213								513245			354554		353235	146			464564	641312
										645612					323232				562135	
										3					365321				645213	
															235623				252123	
															212321					
															232322					
															456321					
															232123					
															321235					
															222232					
															123					
9	123146	123456	123234	132465	123642	533146	246246	135246	461352	123456	123564	134625	136425	134613	123123	462*52	123456	134652	123465	134652
	52363	256314	562312	1353*4	621343	231*64	134643	213	355135	123456	41*153	6*	133132	251323	234563	136463	123654	135213	213246	225134
		565135	535252	623	6				5623		653236		551232		233566	13	123651	33	521324	625135
		3	353152								362264		46		622456		313231		652132	3212
			5231								132323				6223				12	
											313									
10	132456	123456	132465	134625	136424	531642	246241	132461	464613	123456	123456	134613	136425	132465	123123	131465	132645	134652	132465	134652
	134625	4123	321521	135155	621341	13	346		546213	456123	263412	4625*	136135	246242	456456	225*13	135123	13	132123	513513
	263		542354	251351	356462				134625	451431	515352		426624	546252	321234	4652	123*		465551	465224
			212523	324625	135351				213*46	231	132326		646242	522212	566231				32	213246
			521232	462132	546246				213		212*		513131	346556	566544					242131
			521	513*1	5632								551642	41325	552222					54521*
													342613		325542					
													*13531		452212					
													35*131		332552					
													511522		1211					
													13**							
11	134625	123456	123546	134625	134625	531642	246422	132113	461354	123456	123456	134625	136425	132136	123456	46213*	123456	134665	132134	134652
	21346	121354	253132	513464	135146		13643	465241	621321	134321	515352	*	146221	413125	252326	136431	135513	135421	654651	462642
		621235	312356	613142	41213			3	3*1324	322	1*1654		325135	461354	545212	313253	212123		313464	325452
		462132	5446	61346					521352				545231	62	323232	521364	564112		651324	313641
		252136											246213		354565	6	364521		651321	323*35
		42											512136		223		23*312		346513	4
													423514				5546		213464	
													623*42						613465	
													651426						132564	
																			5231*2	

12	123456	123456	132456	134625	135461	64231	246246	123145	135465	123456	123456	134625	136545	131246	123456	2462*3	112364	131552	132456	131134
	461325	213323	465641		325461		264421	646523	246231		51*1	2*	25*3	511121	235421	123125	521315	333	546132	625246
	2		23		615		364		3					21323*	545633		212365		465213	236523
														222222	545662		41		213213	2
														546546	223354				2	
															565232					
															545232					
															321245					
															645655					
															65232*					
13	134625	123456	123134	134625	135254	533164	246463	132463	461352	123456	123123	134625	136425	132464	122314	551535	123654	134621	132465	131346
	23146	641325	564621	461352	624251	2	124625	1	31	134365	456513	14364*	135462	641313	563541	12462*	121212	346251	465465	522462
		512315	352122	464614	352526		242623			123546	6523		531531	125462	233535	316431	365446	352213	456132	312562
		42132		52	413351		1			2456			31352*	2*4562	252321	645256	246213		465132	3*52*
					351351								242643	464444	235413	455131	531456		134652	
					354642								156452	464645	265456	522532	*36124		132311	
					213465								352546	645462	221256	316431			23	
					466421								2135*3	465**	321233	46				
					355254								545642		325523					
					613542								624221		2					
14	134625	123456	123456	134621	136425	531642	246213	132465	135461	123456	123456	134625	136425	134613	123456	546312	123645	134654	132465	134625
	262322	45521	456212	354624	134654	1		463123	352*13	456123	513236	1346*	643513	254212	212321	*41364	641235	613525	132131	462513
	12662		541232	4*3114	6213			1	462	45641*	545632		146213	321211	232156	642642	132135	421	231232	251352
			254							2	532145		564213	442444	622262		121311		1232	1
										4			513515	645454	366254		231236			
													135315	541345	565213		541232			
													642315	63*255	323536		123212			
													*	565	2126*4		321236			
															5666		545463			
																	213246			
15	134625	123456	123134	134625	134625	531654	246463	131324	461352	123456	123145	134625	136425	134612	123654	251364	123456	134621	132465	134625
	262126	142642	656265	134624	132513	213	1	654243	135135	456123	651352	1325*	642135	512112	562123	462316	131324	313546	465132	462125
	231625	1*452	64	616425	4621				246*13	456123	1		131355	*45641	545652	4*	646213	462215	465132	135212
	462626			2*1322					131354	456			642*	2	126232		513524		5132	364656
	66252			4665					621354						123654		646423			46*235
									624646						124212		152131			463123
									13						365456		23456*			36
															125121		*13645			
															21		2			

16 134625 123456 123456 132465 134625 531316 246312 132456 461313 123456 123214 134625 136425 134621 123456 256413 123654 134625 132465 134652
 221 521345 246 132464 135461 41213 462642 134621 546621 *2 565142 1* 461355 454135 616625 2642*5 135512 135644 123254 462132
 651315 6146 546215 465133 3 3*2462 1 464624 632123 456351 646264 462136 6221 651321 513532
 462312 446632 534153 666213 126552 232123 *31646 4 32 3213*5
 564562 513152 421355 123262 212325 *31564 64
 123 426244 5*546 654365 631235 5*
 662631 623613 62*623
 45 525252
 625

B3 guesses 4/19/2002pm
Adjusted guess/entered guess when differs

Game/Sub	301	302	303	304	305	306	307	308	309	310	312	313	314	315	316	317	318
1	600	630	650	480	500	350	750	600	525	500	550	600	720	750	525	612	600
2	520	650	620	380	300	500	676	520	650	650	600	550	650	650	650	530	520
3	780	900	900	600	800	780	900	600	900	900	650	645	300	850	900	795	750
4	350	430	430	680	300	780	546	350	546	630	546	510	650	573	335.5	360	350
5	210	479	367	300	450	315	262.5	450	315	500	350	250	150	500	315.5	460	450
6	300	100	100	450	350	105	100	350	105	100	150	175	100	100	105	362	140
7	210	340	225	300	350	315	262.5	210	315	200	200	250	345	350	350.6	222	220
8	500	400	455	450	500	420	420	350	420	500/630	400	475	500	500	315	365	400
9	500/520	500/999	500	500	500	500/780	500/780	400	500	500	490	475	300	500	500	500/925	500
10	300	300	300	400	350	350	300	400	300	300	300	300	300	300	350	500/714	300
11	150	370	350	300	500/750	225	225	500	225	500	250	200	300	375	375	500/763	260
12	780	900/999	900	690	390	780	900	600	900	900	600	645	300	620	900	800	700
13	350	555	390	630	650	709	455	780	455	400	520	510	410	900	455.55	780	650
14	200	160	150	400	250	175	175	500	175	150	175	200	250	150	180	420	200
15	150	100	100	400	400	150	175	500	175	100	125	175	100	100	100	311	150
16	150	218.75	250	300	450	150	250	150	250	100	200	175	300	100	250	311	200

Type	L1	L3/Eq	Eq/L3/L2		L2/L1	L2	L1	L2	Eq	L2/D1	D1	Eq	Eq	L2	L1	L1/D1
#right(0.5)	10	7/7	8/6/5		7/6	11	10	16	11	3/1	3..	5	11	8*	3	7/5
														*+1 w/in 0.55		
Type	L1	L3/Eq	L3/Eq/L2		L2/L1	L2	L1	L2	Eq	D1/L2	D1	Eq	Eq	L2	L1	D1/L1
#right(25)	10	11/10	10/8/7		8/8	12	10	16	12	8/7	7	7	11	10	12	9/8

B3 look-ups

Game	132465	221135	251324	143625	123245	142615	123654	246551	1352	123126	123456	134652	123456	213465	123456	123456	132456
1	246*13	465645	646541	131346	646213	325115	563132	324626		544121	132464	624135	6525*5	624163	456565	465231	465252
		213213	221415	253	462312	32153*	646231	31		565421	652136	153535	21364	564121	454652		13242*
		45456*	463466		654646	13	526462			254362	212363	46315*		325466	131252		1462
		541	511351				31*			*21545	123123	426235			135462		
			623365							4*	113245	3			412312		
			564666								646454				125451		
			665456								645212				254112		
			521321								454545				322154		
			456464								612451						
			464564								246121						
			566654								242123						
			142345								412155						
			366245								222461						
			6566								324621						
											346						

2	132466	213546	123456	134625	246211	153246	123654	123254	135263	123546	123465	134524	132546	134652	122331	24652*	132465
	2413	566213	541232	21346	334636	225624	563212	62631*	1526*2	216326	246221	262621	513554	124653	456264	2465	132*46
		545463	444166		454613	153326	312365	513	*3	231456	321321	351535	23	656121	313625		2
		21*266	325545		64151	423123	456123			*62	244546	426251		3	254625		
		54123	633212			645642	123646				113546	535*51			513135		
			516116			613236	465231				121354	535242			12*531		
			6			321232	523*				622221	62			6		
											3						
3	132465	265413	123456	134622	246134	426131	123654	2513	135263	123655	134625	134625	132465	132465	123456	462524	134652
	461462	232145	546321	5	163134	534125	563214			463213	132556	2513*4	4*14	544163	521463	62	1323*4
	321	563214	456131		635451	36	253613				24113*	426265		*3625	212453		
		563214	141253		5356		46523*					13			62*3		
		523*65	636636														
	4123		363633														
			361222														
			552253														
			655632														
			321456														
			3														
4	132466	231456	123456	134625	246143	426131	123654	132546	13526	253165	123461	134652	121346	132465	123456	2462*	132465
	21113	555123	312521	461346	261346	534621	563564	462262		422651	325142	142625	563143	254664	314632		123124
		456123	456651	254636	312513	3514	623146	4513		245515	552125	153566		215364	551236		213513
		2*1236	453626		464551		431364			15	6462*2	241315		546	231145		132
		545632	126166		421313		646312					362426			641556		
		125632	1321*1		526411		646465					216255			5455*		
			456521		354121		213131										
			223235		12615		564213										
			456515														
			3633*3														
			366632														
			214151														
			11555														
5	132464	213654	123456	134625	524624	426131	123654	253251	135263	123654	134625	134625	123456	134652	123456	24625	132465
	413213	523654	456321		621325	531464	213646	352461		123654	252522	153542	552121	465335	525246		213213
	546213	123654	152521			261531	536431	3		6353	322123	6*5426	4	526263	523462		2
	464624	523252	236546			532521	564213				2	1535		3	3465		
	625135	541365	321236			534561	*										
	13123	41235	623133			532426											
			625236			24											
			236554														
			451354														
			323123														
			3*5655														
			452325														
			665123														
			123435														
			6*6131														
			3*2144														
			**														

6	132461	123654	123654	134625	246132	142615	123654	251364	135216	123546	134625	134652	123456	123456	123465	2462	134652
	313513	565412	564563	653	624336	315321	123136	642462	4	541241	134625	142621	625663	465265	252362		525242
	13213	321456	211232		462	542356	464613	31645*		253636	461354	315351	2514	134354	514652		*1322
		3*2136	456412			153153	133154	513213		124	545121	354262		612134	325232		
		541252	341456				6213*	461354			*12465	513*35		1	462*4		
		632145	321433					664522			13	426					
			521261					131534									
			324441					5									
			652144														
			41454*														
			253														
7	123462	123456	123456	134625	246132	426621	123654	254626	135264	123654	134625	134625	123456	132465	123654	246	134652
	613	562312	231234	563*14	552	354612	563212	31		136452	136452	135426	312525	461326	314652		252362
		324561	561234			215351	236541			562656	113465	2615*1	6552*	25*462	522546		62
		45623*	652511			532521	236464			316251	64522	342662		556341	315252		
		4125	325126			3	315213			231364		535			5*		
			626262				*										
			643624														
			621465														
			141536														
			552*62														
			325*56														
			565655														
			462145														
			555153														
			512662														
			646562														
			652621														
			4552**														
			123123														
			412345														
			613644														
			555														
8	132465	254136	123456	134625	246132	153462	136425	251246	135264	123654	134625	134615	132465	132465	123465	246	132465
	462513	412365	123221	36265*		131321	246*	31	3	136452	134654	313426	235141	212645	252134		131246
	134651	412354	456562	41362		354262				1652	646231	2*1345		132526	562254		321323
	313113	121415	236523			1					2254	1535		64532	651153		2
	134632	12356	151551												513524		
	3		511315												213521		
			364565												311221		
			565151														
			533156														
			2365*2														
			6														

9	132465	213456	123456	134625	246132	421535	136425	2513*4	135236	523653	134625	134625	134652	134625	132456	2462	134652
	135131	213456	545633	236533	132562	323211	135654	645462	4	641364	15461	153542	652314	124263	544513		5232
	46246*	321456	25443*	625	426231	344262	62313*	465424		36	232523	635*13	255621	252635	652416		
	123213	213456	424653			624631	645623	462461				535242	425	15462	325623		
						462134	135232	346354				6			352623		
						236241	152523	624631							45635*		
						231531	132										
						532312											
						354											
10	135462	123564	412311	134623	246132	153462	123654	2513*4	135264	236541	134625	134615	134625	134625	256341	462*46	134652
	513131	412365	313212	256536	246213	134261	123154	6	*1	236541	154621	351353	141213	432463	413252	213332	513246
	146134	42131*	354654	41	2	3426	56213*			245456	315412	514261	25252	513413	152452	123465	212132
	613213	145236	546121							3261	421235	515354		546212	465546	231	
			142145								41	262351		1*452	252461		
			656521									542621					
			515435									315354					
			546122									61*426					
			112353									3					
			231465														
11	135246	213546	123123	134625	246132	153465	136456	254626	135246	123654	134625	134625	123456	132465	132456	146231	132465
	135131	231235	456553	623*14	132123	4213**	412313	31*642		136541	464242	426153	132546	213246	314631		132423
	324613	465234	531545	632		123153	5213*	5		236563	12	513542	146325	251313	146521		2*2
		5*4563	254641			152				631245		621	5	315442	434565		
		256312	313113							32				136535	2		
		323145	*143*3											213353			
		44125*	564121											123546			
		213564	2155*1														
		523145	456321														
		6															
12	132465	123654	123456	134625	246132	153246	643125	25213*	135264	123654	134625	134652	132132	134625	123456	24623	135535
	134652	123654	123151	652145		131324	353*	461352	3	125463		13	4652	134621	541225		2
	1	123*32	343436			265142				62				234641	635263		
		1456				536*2									6		
			254131														
			*11346														
			541253														
			625144														
			26*														
13	132465	123456	123456	134625	213462	153462	123654	251346	135462	112541	134625	134642	143612	134652	134651	246213	132465
	513246	456321	123456	25265	3	51213*	136423	246231	31	454212	134623	615351	525425	525213	252543		42*462
	246351	2545**	412134			426652	136464	*63164		365423	154623	3*1342	2		246255	166341	
	313513	252*45	565425			31*	131542	524		635523					641325	252551	
		6321	132235				31*			623564				*13254	213552		
			314425							124534				6	3		
			136455							254521							
			414414							2362							
			563242														
			456321														
			233														

14 132464 123456 123245 134625 224613 153351 131356 251346 135642 123251 134625 134626 143652 134652 132456 246231 132465
 644621 545654 654445 523256 21321 213456 421352 *54622 1 456341 521354 242162 131454 132462 465231 354652 2132
 346213 123524 645521 5365 *42615 13* 461352 563141 6521 135135 5214 461235 225415 13
 *2464 24*241 232412 311532 553546 *452 *13426 362326 615163
 236524 123211 631253 2 54242* 212135
 15632 231235 146524 1536 21*
 651412 613254
 56244 62

15 132465 245613 123456 143625 246132 153245 123654 251364 135462 125364 134625 134642 134652 123465 123456 246231 134652
 136462 245641 456545 6 6 624262 123135 312546 1 142563 212542 621315 54125* 242462 463125 * 4621
 64413* 242461 511215 413212 246213 15213* 14 1 35 2 134613 263214
 46262 54623* 115151 3564 * 64 246413 563521
 412365 251145 654121 232655
 45 612312 14365 232125
 154112 2541
 415131
 64641

16 246135 123456 123123 143625 246132 153151 132456 252462 135642 252146 135452 134642 143652 134625 152364 246231 134652
 2464*4 545654 456562 6523 324255 346241 312564 651364 365625 134621 651351 5625*6 662541 136452 246254
 64 562545 565223 465122 2*4261 213* 13*246 151 3246 *1562 52 356452 156123 651352
 6*4123 14565 31 236461 2 136425 212121 1326
 566235 162546 *
 41 145255
 532645 215246
 6*4261 325152
 53 135462
 *21331
 5436

B4 guesses **5/24/2002am**
 Adjusted guess/entered guess when differs

Game/Sub	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	420	421	422
1	675	650	700	525	525	740	600	400	600	575	256	650	750	550.55	600	578	600	600	515	498	525
2	585	520	650	650	650	650	520	350	520	540	395	650	520	650	520	483	650	520	550	505	499
3	550	700	650	900	900	507	700	600	645	650	720	900	780	700	780	585	900	780	600	760.5	780
4	450	350	411	451	546	400	609	350	465	450	425	549	350	900	350	460	333.87	400	535	489	450
5	300	450	433	500	315	500	450	400	325	375	250	305	450	333.33	450	260	450	450	405	275	140
6	250	350	380.12	100	105	221	360	400	325	500	420	200	350	210	250	200	100	350	300	500/530	105
7	250	210	320	158	315	350	210	350	225	200	300	300	210	500	210	235	173.91	210	330	326	315
8	470	350	420	441	420	445	420	500	400	400	350	420	350	500	475	500/777	315	450	500/515	420	420
9	405	450	500	500	500	300	500	350	475	500	500	500	450	325	500	420	500	500	500/619	315	500
10	315	350	300	300	300	400	300	400	400	400	300	300	350	450	350	357	300	400	300/265	472	300
11	330	350	225	169	225	375	225	400	325	200	500	388	500	250	450	410	300	500	350	346	225
12	700	780	900	900	900	507	900	700	645	300	780	830	780	780	780	579	900	750	780	560	780
13	800	780	620	546	455	819	455	700	645	200	845	650	780	425	565	557	520	750	535	650	455
14	280	200	200	150	175	175	210	200	200	260	225	200	200	180	250	200	150	200	265	513	200
15	250	150	223.23	100	175	175	175	175	150	150	200	174	150	275	250	186	100	150	230	483	175
16	200	150	150	563	250	375	250	200	175	180	157	250	150	250	450	169	227	175	350	329	506

Type	L1	L2	Eq/L2	L2	L2/L1	L1/D1	L2	L1	L1	Eq/L3/L2	L1	L2
#right(0.5)	12	6	9/6	16	8/5	4/3	6	14	9	8/7/5	10	9
Type	L1	L2	Eq/L2	L2	L2/L1	D1/L1	L2	L1	L1	L3/Eq/L2	L1	L2
#right(25)	12	8	10/9	16	8/8	9/8	11	14	9	10/8/8	11	10

B4 look-ups

Game

1	132546	123146	123462	462135	144652	125336	134625	123345	123426	123456	123465	134664	123456	123654	123456	123456	252531	123132	132525	123456	132464	
	134645	451232	525246	464655	313312	463135	426462	645213	146311	456456	4621	132546	545612	456123	111531	426215	464656	456423	134613	465132	521354	
	131234	323215	465135	645515	546232	325263	132464	252465	52	123213		525132	3463*	241562	464542	246213	446531	1	133146	6132	622	
	651213	646646	365553	21354*	12512	365414	433266	465125		123456		61465*		145632	446246	2	641252		464613			
	123121	466423	535326	135462		514645	45	224654		456456		136452		1456*4	135114		462121		246134			
	312313	513213	265352	426256		511265		512465		462123		64		123654	215164		3		625254			
	121	56462	626262	356234		326526		132		456112				563232	242154				622456			
			424262	131354						312345					132254	2				225254		
			626262	645						612345					123123					651225		
			621526							645654					256415					252554		
			262626												632112					651321		
			565656												65212*					323211		
			56553*												*					234565		
			3																	456456		
																				465465		
																			252551			
																			322135			
																			456545			
																			613122			
2	134613	123146	121232	462461	132456	123123	134652	123465	123644	123456	246513	136452	123564	123654	123456	142536	255236	132456	131325	132465	123134	
	465212	546411	136541	352524	253156	456262	461342	252134	262131	456123	25*	5656*2	62213*	125236	114224	264123	62*365	231	464613	132465	654624	
	131524	213642	363625	261315	456545	626263	265314	613*13	23*662	123456		311325		542524	621146	624	243563		133226	165423	622311	
	612311	656231	254262	463562	463123	155365	62	245645		412312		645261		526361	513612				455512	566	235461	
	3	2	424266		156562	365356		621324		212345		34641		245524					354656		325652	
			266515		62	263133		651232		6*1234				562156					456321		1	
			355353			246231		465*13		561245				421524					231234			
			351565			326564		246546		123123				626212					564655			
			3			646562		2513		454545				561* *1					456456			
						626545				611234				226152					552552			
						654565				566123				3					134564			
						456544				456456									654646			
						562311				123213									132554			
						313626													654654			
						263566													561231			
					6623													232465				
																		513232				

3	136452	136463	123142	462135	312456	123654	134625	123456	131246	123456	132465	136425	264231	123645	115313	132463	521363	132245	125255	123456	132465
	136421	136452	363252	215634	5231*1	123541	213123	456321	46341	413651	2312*	316452		423152	426626	512345	641526	6231	461313	25211	2156*
	313252	523523	525252	*52	236545	256322	131312			212345		133641		521463	54132	62	5263*6		134625		
	131235	121215	123		5233**	632142	313331			612345		25*63		145252			52		134651		
	221231	413223			513	536251	3			612345				122314					234561		
	121131	2222				411255				612456				565463					234564		
	212323					145232				123212				21*123					564613		
	122132					131				345612				564523					2513		
	213231									345623				*5* *31							
	221213													2							
	221332																				
	121221																				
	232223																				
	122																				
4	136541	136441	123123	461352	132456	152364	134652	123456	124642	123456	132465	136425	164465	123654	415153	132464	252525	123456	134625	123456	136413
	346546	232346	456141	613131	541324	136251	134624	524231	162352	321324	135461	251364	2123	562123	114262	5152	314646	64213	252525	431346	524651
	513246	521232	153542	352562	564561	412536	616213	231346	142162	561436	32*	253121		565261	641142		531525		113464	25	352642
	2	132112	642641	546243	356432	141254	646314	134625	313	123445		364*25		212356	624463		462135		134655		*
			263621	156134		123655	642313	134624		612341		251346		223324	124546		461313		111321		
			535215	625131		236351		654655		23456*		51		152562	542462		51		132132		
			213211	654515		521232		462461						545662	654				4655		
				365656		115114		323146						313654							
				213212		222222		564564						*3							
				314243		446265		613													
				4		351551															
						461211															
						111122															
						2															
5	136452	123154	252424	461325	132465	135624	134652	123252	123463	123456	136452	136452	64231	123654	114426	132465	252512	113245	132512	123145	466413
	512546	646462	512463	463142	132546	265153	521462	213456	241361	123456	236	354365		123654	362213	462132	152522	6231	513464	6	251325
	513254	242132	141361	465135	62	532313	631646	642136	23	254136		521346		123652	511153	31	164546		614651		2*
	612321	5654	252523	424613		564266	213	314252		512132		**253*		552255	51426		25		346554		
	3			455456		232451		5254*5		144564		25		256365					651313		
				465232		534651			2	124456				225123					213464		
				325463		533532				123456				524452					651321		
				254232		333562				*12345				525*23					231231		
				3		553325				645645				145625					231324		
						53253				123456				32					65465		

6	136466	123542	125255	134652	132465	123536	132465	134665	123124	123456	462135	136452	64231	123645	426413	123456	524151	123564	134625	123456	136425
	313456	136413	131313	524613	131352	456545	213246	252525	162652	314252	252*	652135		251365	542625	124621	21*636	213*46	251313	132345	134625
	465645	262462	142464	452515	413625	653555	246552	213463	621424	361235		4632*1		452123	131535	3	431315	2	461313	6	461321
	211312	132*5	646646	534651	2	531535	461352	1*5321	13	212456		355*		525462	142		2		213246		46525
	125466		321464	341215		232215	213462	232123		*				*					546461		
	1231		136462	41*512		645665	463646	2											325132		
			13	345454		553535													132465		
				242421		353535													465131		
				51542		326555													323456		
						265565													464654		
						3221													654613		
																			231464		
																			651322		
																			132132		
																			645465		
																			132465		
																			132132		
7	136425	465621	515154	461325	136452	126262	134625	123465	123241	123456	134625	135452	64231	123135	123456	132465	255213	132465	132465	123456	132464
	131213	325242	615351	244652	541236	626263	213134	225222	6231	361425	2*	*12345		125645	142621	1245	645252	213256	252123	123245	136425
	134622	624213	521313	131212	513522	136566	62132	13522		123425		62		262163	311531		252565	4123	131324	63	525
	26431	132134	511513	456123	62*123	466223				*12345				263543	614426		321525		654654		
		565446	212155	456456	546	1				12*				562145	26		421454		654651		
		41	242642	412351										665425			562131		321313		
			2123											63256*					213465		
																			465546		
																			465465		
																			465132		
8	136461	123654	252424	464613	132456	153265	134626	136464	123132	142536	134625	136452	64231	123654	142615	134625	251346	146521	134252	143661	134652
	256446	212631	251515	254213	526231	563426	425131	133252	46231*	362514	2*	5231		252365	333412	134546	414621	3	546131	346251	1352*
	531213	246213	351531	513146	23	224122	511354	5253*2	13	251324				412335	426426	13426	3152		322464	324653	
	31313	255646	536415	565552		632146	651325	513*52		565123				212364	1				646546	2125*4	
		5	313213	312323		464652	463123	1313		123641				562132					513132	65	
			515642	562		332312	123312			256421				*3					465		
			13			321221	315463			32*											
						251632	132524														
						153514	513513														
						364631	123462														
						112125	613														
						546446															
						131331															
						231313															
						1															

9	146546	134625	513131	461351	132465	123255	113462	136446	123546	123654	136452	134652	642312	123654	142624	132465	2536*3	146523	131325	123456	134631
	546462	131642	355462	534613	563111	521463	462466	132525	426212	521512	25	3*3132	644634	123654	232124	151311		124562	134613	346531	462563
	123246	313264	234563	546153	35623	146363	513135	136413	326631	345612		456256	43	123213	2623	246352		13623	224646	221325	1535
	464521	521313	53	152323		1	135132	642525		546123		423145		5642*2		521336			465465	465123	
	621315	252464		235315			426641	251364		456456	6			513652		321			461313	456	
	646464	264623		462235			321353	546		421223				412151					246546		
	213546	122212		35555			212364			*				524545					546513		
	152546	3					631234							215565							
	123212						621352														
	312462						442623														
	136312						264525														
	322131						131542														
	1						654252														
							3*1346														
							234613														
							546135														
							641346														
							521213														
							3														
10	136456	123212	531351	135464	136413	136642	134621	134625	123241	123456	136425	136452	64231	123145	426426	132146	251454	134652	251346	123456	132465
	421321	354631	354552	534521	542131	522566	353124	134652	6313*4	123621	213542	132465		624564	26	513514	12	31	113132	461325	213461
	231312	346213	552123	321542	3	413636	646513	134613	2136	236545	151	211		565251		236121			132132	631452	325135
	321232	524626	212654	145452		361465	135141	322222		652142				232123		123233			246546	53465	25412
	31213	462131	1	31		444631	324213	222222		151				215463					513246		
	6464					232534	6413*1	222222						563212					5		
						42132	353135	222222						*							
							463132	222222													
							121	222221													
								333333													
								366666													
								655555													
								544444													
								444444													
								444													
11	136421	123645	251535	135464	134654	532625	134613	134665	132546	142536	136425	134625	642314	123654	426262	132465	252513	134652	132465	134625	133256
	364132	255212	135421	646464	6213	552655	465214	222222	626231	214536	513246	3232*5	643245	123654	315353	131144	124646	314213	134625	225462	413251
	136456	326462	23	212321		533542	621346	465134	421	546512	232*	2*1324	4	123641	5331	213	313525	562462	131313	315232	31352
	465651	413456		231542		143656	213541	121311		354512		56		352565			315254	3	224646	213564	
	356455	231211		123145		212666	352131	346556		361234				254652			623463		513213		
	46213	121212		641215		655544	354613	4*32		554562				321235			212546		246546		
		121364		151534		444111	554131			31				352454			232145		5		
		565621		412421		222555	426213							212332			421322				
		231463		212312		666332								312352			154246				
		243342		31545		211321								525231			462123				
		212232				246232								21*123			231*45				
		564643				535125								542			2645				
		212212				513645															
		22				632123															
						214646															
						464646															
						515353															
						626213															

12	136425	136452	123454	461325	134652	153563	426135	141346	131325	123145	136425	134652	6423*	251463	142621	132465	252536	134562	134612	123456	134625
	136512	512546	456515	145236		142536	425314	142525	461436	625413	2*	**		254123	533142	25111	146	31	525132	14	54
	31213	2312*4	313562			361452	263134	13	254216	614214				5652*	62				465132		
		6422	33			55513	62362		1*13	562*12									465465		
										54									461324		
13	136465	132462	452451	134625	136455	114253	134625	143612	142536	141425	136425	136452	64231	123654	142663	132134	251346	465132	134625	123456	132461
	213314	132465	535521	515346	213523	635326	413521	546546	365241	362551	212324	52		214563	146541	651321	452541	465231	251346	125463	325135
	625231		345645	245646	1	623	346135	513246	3	463251	613646			214231	533	444134	23424*	3	132465	113462	231
	465612		654564	213456			422			25632				546521		6213	31*45*		465461	525246	
	321		464626	515345										463145			2465		321324	135262	
14			426423	651365										232154					654654	231465	
			*	442312										62254*					6	512346	
				522314																	
				5																	
15	136426	134652	141364	461325	134652	253641	132465	134652	134624	142536	136425	134652	64213	123654	442662	132465	251442	465132	132464	143645	132546
	451322	21346	464464	254261	134654	535364	315135	225132	64163*	321414	21	541254		123654	426151	465123	1	321623	646465	254621	134621
	314622		642131	534646	623132	655365	461346	134624	1426	253645		6		123654	35	163225		14	466513	346552	315
	13213		*42111	451253	261354	656451	521346	652134		621451				251365		564646			213221	314546	
			464241	236212	621	453662	*14134	613*46		2456				465231		1			313213	521325	
16			413135	341264		332626	631354	32*2						325462					246546	626	
			21	246242		263256	624135							1*					513213		
				545212		31	2*1461												213465		
				5			24												*		
15	136454	123462	143625	134625	136452	526263	135462	134652	134625	143625	136453	134652	16421*	123654	426153	132465	251453	465131	134613	123456	132464
	656136	462134	244513	153124	46213	552631	135241	513646	241264	214563	264614	*12323		214563	5	464136	61*54	326314	213213	452364	521352
	456132	6512*1	131354	645424		526312	34641*	46213*	6513	134556		1465		214563		245641		213	213213	125	1
	2313	264262	56121	615315		4	465626	246*46		214536				211444		363663			132132		
		321212		131125			441346	464246		5425				556665		213652			132132		
16		32123		545621			251346	1346						214523		54623			464651		
				21454*			246246							632365					3465		
				125456			113131							236225							
				562524			34613							2123							
				265																	
16	136513	213645	134625	461325	123456	535326	134652	134625	123456	142536	463152	136452	64213	123654	426426	132465	251364	461326	135132	123456	136413
	113645	221326	141315	151534	123134	253531	132513	253246	426135	251423	662541	6		256314	426153	436231	656213	4231	465464	525454	523
	626462		623664	645615	652164	4	564213	513631	264146	665213				325623	115351	463321			654646	121365	
	13		146462	256212	213*21		214625	346246	126361	45*256				62*	5	6552			464651	252454	
			1	312121	3			246646	*465	25*									321321	262132	
16				255654				464646											346	36*465	
				523124				464645													
				526252				213246													
				525645				464613													
				626				262464													
16								66*22													

OB1 guesses 5/24/2002pm
Adjusted guess/entered guess when differs

Game/Sub	501	502	503	504	505	506	507	508	509	510	512	513	514	515	516	517	518
1	615	680	300	600	475	750	550	600	600	233	600	600	350	571.4	600	525	700
2	496	520	350	520	480	525	600	520	650	390	520	520	900	300	520	650	650
3	600	780	500	780	600	666	900	780	780	780	780	780	780	600	780	900	660
4	533	350	500	550	700	470	490	490	630	630	540	350	780	538.5	565	524	573
5	373	300	250	450	330	375	400	300	450	150	300	450	210	428.6	450	341.25	350
6	296	200	450	350	400	165	230	300	450	500	200	350	150	500	350	263.75	175
7	315	400	500	210	200	145	220	210	300	200	350	210	450	200	210	281.25	250
8	381	500	500	350	389	466	350	350	400	350	400	350	500/600	381	500	392.5	500
9	420	500	500	350	500	500	500	500	500	420	500	500	500/520	385	500	500	500
10	303	300	500	300	350	303	300	300	400	350	300	350	300/200	500	490	322.5	300
11	410	225	500	200	500/650	300	350	340	250	325	375	500	150	500	225	487.5	300
12	600	780	900	780	600	888	900	780	460	390	700	780	780	700	692	748.5	900
13	745	455	900	700	780	719	570	430	600	630	780	780	350	714.3	455	558.75	520
14	203	200	250	230	498.65	200	150	200	400	500	200	200	350	571.4	175	175	150
15	187	150	250	210	400	186	100	150	200	500	200	150	350	428.6	175	162.5	100
16	177	187.5	250	240	300	189	120	150	200	750	150	150	750	200	375	218.75	125

Type L1/L2 L1 L3/D2/Eq L1 L1 L1 L2 Eq/D2
#right(0.5) 7/4 8 7/6/6 10 7 16 7 5 7/6

Type L1/L2 L1 L3/D2/Eq L1 L1 L1 L2 D2/Eq
#right(25) 7/7 8 10/8/7 10 7 16 9 8 9/8

Subject 509 crashed in game 13 and was restarted and told to enter 0 guesses for games 1 to 10. Her/his guesses in game 11 were 250 before the crash and 300 after the crash; and in game 12 were 460 both before and after the crash. Guesses before the crash are used in the analysis and listed in the table.

R/TS1 guesses 2/1/2002.
Adjusted guess/entered guess when differs

Game/Sub	603	604	606	607	608	609	610	611	612	613	615	616	617	618
1	750	500	630	350	750	600	600	600	525	500	525	525	562.5	525
2	650	400	600	650	585	600	520	520	600	650	650	650	650	650
3	900	600	550	900/1000	461	780	780	780	780	700	900	900	900	900
4	300	550	350	546	300	350	350	350	400	420	546	546	546	420
5	500	400	500	315	350	500/675	450	450	450	400	315	315	315	450
6	100	300	250	105	175	350	350	350	400	200	105	105	400	210
7	350	250	250	315	150	140	210	210	250	210	315	315	315	210
8	500	475	500	420	450	420	350	350	325	300	420	420	400	280
9	500	377	475	500/780	390	500	500/900	500	500	500	500/780	500	500	500/600
10	300	400	340	300	300	350	350	350	375	300	300	300	300	300
11	150	300	475	225	150	500	500/750	500	500	450	225	225	110	450
12	900	800	600	900/1000	461	520	780	780	780	780	900	900	850	780
13	390	700	400	455	390	375	780	780	775	650	455	455	500	650
14	150	500	200	175	250	200	200	200	200	300	175	175	325	250
15	100	700	200	175	175	200	150	150	175	250	175	175	125	250
16	100	105	225	250	250	150	150	150	175	250	250	250	275	250

Ass.Type	Eq	Eq	Eq	L2	Eq	L1	L1	L1	L1	L2	L2	L2	L1	L2
#right(0.5)	16	0	2	15	5	9	16	16	6	4	16	16	1	6
#right(25)	16	2	4	15	5	9	16	16	11	5	16	16	2	6
Alt. type										L1			L2	D1
#right(0.5)										6			7	5
#right(25)										7			9	6

Subject 617 (assigned type L1) copied from subject 616 (assigned type L2); subject 617's data were excluded from the analysis.

Subject 603 crashed in game 7 and was restarted and told to enter 0 guesses for games 1 to 4. Her/his guesses in games 5 and 6 before (bc) and after (ac) the crash were identical. Look-ups (and guesses) before the crash are used in the analysis. Both look-ups and guesses before and after the crash are listed in the look-up sequences, with g denoting guesses either bc or ac.

R/TS1 look-ups

Game

1	bc:	123456	123456	134613	123456	132564	132456	132465	132465	132461	135422	132513	136442	134652
	123221	123456	246514	513213	134652	231645	231462	231465	213463	345461	13	465451	131546	135462
	461521	123141	313146	513*46	263215	2462		465212	213465	1213*5		352132	651364	
	551436	346456	524626	131354	141125			354546	146414	221352		2	131465	
	364212	246645	522564	613	135263			134654	652456				214621	
	412121		136424		563356			6462*1	321256				264412	
	262513		651352		622*41			324652	4*1345				134642	
	631445							546	642424				314655	
	463626								246446				241552	
	24213								246546				12123*	
	g: 750								24*136				134664	
	ac:								464654				24646	
	1364								246446					
	g: 0								135134					
									131325					
									515313					
									*13465					
									1246*4					
									413134					
									62*416					
									46352					
2	bc:	123464	123456	135642	123456	46531	132456	465231	132134	134622	135623	135652	134622	134664
	132456	135131	665131	13*135	115444		2132	462134	645264	135556	135623	314656	613315	135132
	365115	534264	612462	64623	233565			6564*2	513114	231456		315652	462313	325461
	315463	6	6		336			31	615616			63123	121312	353262
	563241								464652				52246*	1
	521363								122562				136413	
	241225								645222				56412	
	264415								462626					
	356233								125153					
	642								634615					
	g:650								262616					
	ac:								152156					
	13364								6462*1					
	g: 0								346					

3 bc: 121462 123456 135623 123456 132564 134652 132465 132456 136452 135562 136452 134652 134652
134625 613153 246213 *13562 214365 526432 213 231456 452563 532554 3 562315 521321 62323
546 251344 641351 214344 13*1 *13462 212131 6 23 311515
g:900 136 536241 124512 132534 351231
ac: 433652 112 265446 2*
13 3215*4
g: 0 5

4 bc: 123654 251334 135626 123546 135452 123456 134625 131364 136413 135622 134652 134631 134652
136425 151334 624626 2*1356 123456 521345 25123* 125136 5*3564 31 135321 252521 134621
123456 612314 265131 213 514215 625131 21462 425314 566525 346221 3
521536 624641 41 641444 154264 52*521 315315
142156 2365 421 466415 351324 213251
251512 354641 562*12 321352
111424 453241 5 222131
135252 641456 2*6431
623156 526541
256262 151*31
521151 46246
342362
652336
214141
4141
g:300
ac:
13
g: 0

5 bc: 123515 246513 135462 125123 123654 135642 134625 136452 134631 135462 135464 134625 134652
152312 313246 242416 13*131 641352 62 524136 223221 515546 251315 13 136525 213156 213
461425 134613 35246 354621 3123*6 5246 414565 *552*5 4213 422132
362513 644 3 452365 32* 251426
214352 525112 246252
336521 125463 426425
131315 *13314 642523
421235 631254 1
g:500 522462
ac: *26646
134625 644*25
136452 55
513642
525255
221522
242
g:500

6	bc:	13	123456	135462	123514	123231	132456	132465	134652	136413	133154	143651	164135	134613
	134625		242466	1*1354	631425	265452	462	14625*	641325	1352*4	6221	35421*	553153	131346
	253663		451351	61321	335122	264231		462132	641326	613525		4*6*5*	151351	2
	251346		3		46*123			1352	463214	213		1*3*5*	351354	
	252545				654235				563124			2*	624232	
	536354				522				564466				146254	
	21								465223				63	
	g:100								*1364*					
	ac:								464642					
	136425								*36					
	252636													
	641362													
	525252													
	524625													
	315254													
	541422													
	*													
	g:100													

603 all ac from now on

7	136425	13	246132	135642	456321	462642	146246	134652	134652	1352*1	135462	143652	463156	13462
	22552		546246	13*135	312		2	134652	462623	345652	13	316	451323	
			61	462				46225	145631	56			654462	
									646452				462135	
									464645				42652	
									254665					
									655654					
									565656					
									654645					
									46					
8	134625	13	242613	133151	142515	564646	462	461221	136452	13462*	135642	134613	134613	134642
	213462		534563	135135	424154	452231		2546*1	462312	461*51	31	564213	546264	
	525135			462*13	13256	642462		32	145644	312313		5231	462135	
	465256			5462					251353	125225			264264	
	3523								456412	5			2	
									356644					
									644645					
									644242					
									311264					
									51*624					
									146415					
									464*45					
									65464					
9	134625	13	244631	135546	123541	123645	134623	461352	134652	132*46	135642	134654	134631	134642
	253153			213*13	631514	213	13	13*465	146456	13*461	31	623146	466456	
	536453			546213	23			464613	232143	5525		521346	2315	
	521364							413461	663454			5231		
	261365							146246	632					
								3						

10	134625	13	124631	135462	123456	256643	132456	132465	123465	1321*5	135315	134654	134625	13462
	251346		15131	*13546	154421	12	2	312*54	641325	146123	6421	621313	211346	
	255135			2	554			6	623641	2		52131	264251	
	255251								354463				353155	
	335142								234156				233146	
	351								341264				2414	
									513542					
									613462					
									646413					
									456245					
									626446					
									444231					
									2446*1					
									365452					
									6					
11	131463	13	246315	135462	123245	654264	24623	132465	134652	11323*	135462	134652	461324	13462
	252536		1346	13*135	614452	523		346545	626431	4655	13	13*1*3	623214	
	412535			2	1*3			644653	564345			*5*2	553113	
	41521							1231*3	451436				546234	
								215456	456432				253146	
								623					546124	
													25221	
12	134613	1346	244631	135462	251436	123654	123456	134652	132456	1323*4	135564	134646	134625	13462
	462523		45246	13	12	66	2	462465	413652	655252	23	5623	135226	
	212636							213*51	414645	3614			4	
								3246	6*5					
13	136425	13	251346	135642	123654	231645	4623	134652	134652	132*45	135462	134652	134613	134462
	142525		122463	31*135	154421			413456	146314	655	13	31	465212	
	254165		145513	642	23246			5465*4	524364				135462	
	453515							62	52*463				462213	
	462321								526635				546246	
	232								213462				135	
									644645					
									222654					
									64625*					
									13					
14	136425	13	246613	135462	123254	132645	134642	134652	134652	11321*	135462	134652	121346	13462
	213462		1	1*1354	121543	22	13	134654	132426	465445	13	134651	461324	
	515252			62	643536			*13	123145	2312*1		354621	625315	
					3*6231				121542	23325		31352	464214	
									131164				146246	
									654554				213513	
									265426				513541	
									4531				242155	
													451346	
													255413	
													152641	
													4	

15 134625 134615 242613 135462 132566 256413 13462 123456 134652 132*56 131546 134654 136431 13462
 252544 2132 13*135 123521 131313 521341 466415 426231 213 6213 254624
 24*1 462 442 136452 251364 143641 2523 646466
 642 415241 424613
 646121 526421
 456151 462146
 5136*1 153556
 464212
 513164
 22461

16 134625 135 246213 135462 123565 126446 123456 134625 113465 132*15 135642 134656 134646 13462
 255252 13 13*13 241545 523126 2 564135 214625 13 461346 643125
 525 5642 152411 42 642246 465563 56213 362321
 362353 251456 146545 364523
 536223 156211 452532 1
 236542 145636
 64*134 542465
 655252 4562*4
 2 6265*6
 543216

R/TS2 guesses 5/20/2002am
 Adjusted guess/entered guess when differs

Game/Sub	701	703	704	705	706
1	560	750	750	750	750
2	520	650	650	650	650
3	715	900	900	900	900
4	300/230	300	300	300	300
5	450	500/525	500	500	500
6	500	100	100	100	100
7	223	350	350	350	500
8	500/1000	500	500	500	500
9	425	500	500	500	500
10	300/175	300	300	300	300
11	160	150	150	150	150
12	740	900	900	900	900
13	630	390	390	390	390
14	200	150	150	150	150
15	250	100	100	100	100
16	700	100	100	100	100

R/TS3 guesses 5/20/2002pm
 Adjusted guess/entered guess when differs

Game/Sub	801	802	803	804	805	807	808	809
1	430	400	600	525	600	600	600	350
2	400	475	617.5	650	617.5	712.5	618	500
3	645	645	838.5	900	838.5	760.5	838	780
4	645	645	451.5	546	451.5	451.5	452	546
5	225	225	337.5	315	337.5	337.5	337	315
6	175	175	122.5	105	122.5	122.5	123	105
7	225	325	227.5	315	227.5	227.5	228	315
8	500/600	500	420	420	420	400	420	420
9	500/520	500	500	500	500	500	500	500
10	365	300	300	300	300	300	300/140	300/140
11	500	175	262.5	225	262.5	300	262	225
12	645	645	838.5	900	838.5	900	838	900
13	630	465	604.5	455	604.5	325	604	455
14	200	400	200	175	200	200	200	300
15	150	300	150	175	150	130	150	175
16	150	300	162.5	250	162.5	162.5	163	375

Ass.Type Eq Eq Eq Eq Eq
 #right(0.5) 3 16 16 16 15
 #right(25) 4 16 16 16 15
 Alt. type L1
 #right(0.5) 3
 #right(25) 4

D1 D1 D1 D1 D1 D1 D1 D1
 3 2 16 3 16 9 16 3
 5 2 16 7 16 11 16 6
 L1 L2 L2 L2
 5 2 16 11
 7 4 16 11

R/TS2 look-ups
Game

1	123456	123654	123456	131324	123124
	114621	123126	363256	642212	563623
	346132	234153	565365	355545	561414
	562421	612163	626365	212325	*
	31	523541	652651	324565	
		46352	452262	255542	
			6526	354665	
				662656	
				226226	
				366	
2	142136	123626	123456	123456	142536
	2132	314245	525123	626233	623562
		231452	652625	265656	62
		232232	635256	254552	
		322423	262365	645535	
		625252	456	142256	
		3332*		62	
3	426231	126234	123456	123546	142536
	313	521251	321456	362541	251436
		463665	325632	236531	25
		232541	312141	253633	
		236321	121121	636352	
		452312	216263	14	
		365455	263232		
		214563	323262		
		211546	323232		
		523253	526323		
		562			
4	426246	123654	123456	123636	123456
	413	123265	142545	254141	362566
		415112	364121	412562	262236
		523145	545121	412411	625214
		42422*	512415	5521	451
	1		421525		
			634121		
			514514		
			152121		
			524114		
			541212		
			454156		
			514511		
			52		

R/TS3 look-ups
Game

1	134624	514356	153463	154346	154356	251364	123456	151515
	21	413	152353	5213	423213	123564	541515	353535
			646314		2642	*1324	451535	153535
			621313				356464	15151
			623564				646213	
			143636					
			422462					
			13*					
2	134625	514356	463125	515135	514535	513646	123456	565145
	421356	513	131534	365462	615364	52143	546514	631353
	264214		622134	3	23		515656	356546
	134646		651535				566231	365654
	551136		13462					631636
								151646
3	134652	514365	136452	515362	514536	513641	123212	525151
	4	132	513643	3	123123	62	365464	535353
			513623				151515	536543
			1				151515	1
							356365	
							642122	
							3	
4	134615	514361	134625	513621	516341	645136	123454	515363
	15365		513654	3	536323	2	565415	541*22
			651621		1		135641	22
							156362	
							123212	
							12	

5	426131	123654	123523	363641	142536	5	134652	514363	136425	515346	514362	645413	123514	511535
	3	126241	614525	252546	143625		15435	1	314556	231*	513544	462563	145363	265453
		213514	252536	232363	623532				463521		35223	12	632353	21
		632144	233262	525353	353*				3				546435	
		136322	532626	533353									354642	
		323232	353233	523									313	
		424124	232323											
		512536	232											
		*2623												
6	42613	123654	123654	365214	143625	6	134621	514361	134651	515342	514361	645134	112313	51532*
		136252	256414	145652	142536		535143	4	543546	1*	435213	21*453	132546	41
		626316	112451	612332	1*		623641		213			2	641451	
		421354	211454	123211			653544						415534	
		563521	1	244215			2263						355421	
		232121		135321									3	
7	42613	136452	123525	364125	125436	7	136452	514364	134656	515362	514631	564531	123456	511553
		253621	364125	221364	523631		426426	31	5213	13*	532213	251325	636415	214
		123121	362356	212426	4*		135154					625364	356213	
		42	562252	665556			261351					1		
				222*41			534							
				242124										
				252										
8	42613	114362	123525	125231	253641	8	136415	511463	134651	513642	514516	651364	123456	515353
		511364	463225	364552	432532		424153	643	351354	13*	135463	253235	541511	535353
		162345	326353	245625	63*		63546		65213		5623		515353	535151
			23	562262									5*22	511322
				532333										115515
				263363										335254
				5233										14
9	426213	123126	123525	365214	142536	9	133643	514363	134653	515346	514635	631532	121231	515332
	41534	413522	636336	142235	3		215141	1	354621	213*	115435	364235	345651	413636
	6464	631421	232326	566532			346		356465		333562	1	641535	3
		356412	523232	315235					1353*1		3		535365	
		5543	365223	23					346541				353532	
			5						5235				3	
10	153134	146312	123525	251364	142536	10	213641	514363	134625	515346	513416	631253	132134	515153
	6	514365	412145	122442	141415		533521	1	135415	213*	32121	146242	564515	53241
		226232	451545	125515	*		366426		361531			1	1532	
		415315	121215	2			421261		535134					
		212151	415461				364		646513					
		4	452121						346213					
			221212											
			451212											
			1212*4											
			1											

11	15346	123654	125142	132645	251436	11	136425	514361	113464	513153	514365	631545	123456	515324
		136251	114512	232426	154245		154231	3	135346	46213*	315454	21*25	363154	1
		634126		331232	42*		362153		154356		532231		535323	
		314513		325566			624356		141325				31	
		524212		513522			214625		213					
		12221		212325			115354							
				221254			226153							
				522154			46							
				122254										
				2										
12	153546	114362	125143	361425	125364	12	136425	514361	132123	513462	513465	631561	132546	515353
	12	525145	625253	212321	125363			3	513246	13*	51623	425363	651515	535263
			625332	542	*				513523			2145	3562	
			236						21456*					
									456135					
									62					
13	15346	143625	125251	123654	142536	13	136425	514363	134653	513642	514365	531146	112351	515353
		126241	421124	124252	214245		142631	1	134622	13*	145364	352*21	545435	532642
		321565	154231	542545	42*		51426				2231	2*5314	636543	1
		421442	452412	55442								25	451521	
		425121	454252										3	
		4	1414											
14	153426	143641	125141	123321	142536	14	153462	514364	134653	153153	514365	531462	123212	51532*
		252264	421215	232145	251412		415362	13	664254	6421*	364221	1*5214	456145	14
		213545	424514	636524	1*		354264		664521			42	136533	
		545412	21541	152242			262		46213				564621	
		*1		54542									23*642	
													123	
15	153426	143625	125141	321236	142536	15	131536	514356	123465	513513	514536	531462	123151	515324
		264251	425145	352412	4*		244212	413	364136	513645	536421	14521*	413636	1
		535421	124212	265215			462		641346	213*	232515	546	526353	
			412454						246213		34621		535446	
			251241						462				461232	
			141542										21	
			541441											
			412121											
			154214											
			545141											
			15											
16	153153	123641	125525	123654	142536	16	135426	241543	134651	513153	514365	563415	156414	515322
	426	252624	143614	124524	521		64213	641656	146464	64231*	4621	62*1	535635	4163
		261351	121251	212525				13	652461				636646	
		346215	454542	152125					351646				464621	
		62511	121254	525356					135162				3	
			145121	621					1					

R/TS4 guesses 5/23/2002.
Adjusted guess/entered guess when differs

Game/Sub	902	904	905	907	908	909	910	911	912	913	916
1	450	600	600	600	525	525	525	525	600	600	600
2	400	520	520	520	650	650	650	650	650	617.5	617.5
3	390	780	780	780	900	900	900	900/1000	850	838.5	838.5
4	390	350	350	350	546	546	546	546	475	451.5	451.5
5	500	450	500	450	315	315	315	315	338	315	337.5
6	175	350	350	350	105	105	105	105	150	105	122.5
7	100	210	350	210	315	315	315	315	230	227.5	227.5
8	500	350	350	350	420	420	420	420	420	420	420
9	500	500/900	450	500	500/780	500	500	500/780	500	500	500/780
10	400	350	350	350	300	300	300	300	300	300	300/140
11	375	500/750	500/750	500	225	225	450	225	260	225	262.5
12	390	780	390	780	900	900	900	900/1000	810	838.5	900
13	390	780	390	780	455	455	455	455	500	455	604.5
14	315	200	220	200	175	175	175	175	200	175	200
15	250	150	150	150	175	175	175	175	175	175	150
16	100	150	250	300	375	250	250	250	160	375	162.5

Ass.Type	Eq	L1	L1	L1	L2	L2	L2	L2	D1	D1	D1
#right(0.5)	5	16	9	15	15	16	15	16	6	9	15
#right(25)	5	16	10	15	15	16	15	16	12	13	15

Alt. type									L2	L2	
#right(0.5)									5	9	
#right(25)									7	9	

R/TS4 look-ups

Game											
1	123456	123456	123464	123642	132413	135421	135462	135421	123456	153463	135146
	135434	4623	654652	462311	456456	34*135	21	35642*	456213	521536	463125
	2613		135464	246*31	213546	542625			13456	446223	46231*
			213		421313	4					
					125462						
					31						
2	462136	123456	464612	46213*	131246	135646	135546	132546	122345	153154	135642
	213415	4231	456464	4622	551313	2314*1	6213*2	213135	624613	645156	156465
	35		646214		546656	3562	13	6231	225156	23	536213
			646213		231				2133		
			46								
3	113462	123456	462134	46231	132456	135623	135546	131354	123456	153155	154653
	352412	321462	613254		462152	13*135	223*3	623135	45*	146353	56213
	345622	3	621354		513546	264		6423		623	
	42		422564		462313						
			64623		3						
4	123456	123456	461312	46213	132465	135642	135462	131132	123456	153154	154635
	542162	424621	321346		131564	31526	13	564621	123456	635462	652132
	31546	3	466666		531212			3*1356	213453	213	1
			464213		3			4213	645213		

5	134625	123456	465213	524621	113213	135462	131354	131354	123456	151546	153465
	142613	424621	*3	3	546521	13*135	6213	6213*1	513461	353235	1323
		3			354623	462		35642	23213	465232	
					1					3231	
6	426231	123456	136452	46213	132461	135462	135462	132546	123456	153514	153462
	542435	4213	213		352546	13*456	13	21*135	513462	64211	13
	6421*				213	321		4625	134623		
									135		
7	114261	123456	646464	46213*	132465	135462	135462	132531	123456	153153	153462
	313256	4213	526465	465213	231352	13*456	13	564213	546213	654545	13
	415142		264621	312	13	213564		*13135	526251	36213	
	4131		3			2		513642			
8	123426	123456	465424	46213	132465	135462	135254	135642	123456	153156	153546
	132556	464621	646462		253151	13	631546	1*1356	251353	541146	213
	332513	3	464646		32213		231*2	42	462132	213	
	262353		46462*								
	23*										
9	**1426	464213	462221	462312	134652	135462	135446	131356	123456	153164	152535
	23536	1	3	464621	135213	313*3	213*3	4231*1	462134	151515	465362
				3*4621	232123			35642	265342	151515	13
				3					6322	346232	
										123	
10	426315	464213	461325	46213	132465	135462	135462	132535	123456	153155	153462
	314621		462*		213521	251313	13123	4621*1	534624	153212	13
	524154				3	151*13		354642	62*123	346421	
	21525*					5		1		221351	
										*1	
11	426314	462464	462246	462313	132465	135462	135221	135135	123456	153151	153546
	653513	6213	314624	2323	213521	123	3	462142	24631	534622	2*13
	4213*		6		3			*13564		13	
								4213			
12	426421	464621	466464	46231	132465	133154	135462	135664	123456	151536	153462
	356313	3*	42424		252312	6231	3	23*135	2122	232141	31*3
	45425*				3			642		236	
13	426452	464213	46224	46231	131324	135464	135462	131315	123456	153213	153462
	51*	*			655213	213	133155	46213*	513465	464153	31
							46213	135462	221314	446524	
									623152	622244	
									*31	411514	
										35423*	
										1532	

14	426413	464621	642213	46231	132465	135462	135246	135462	123456	153461	153462
	**5416	3*	464646		5213	13	213	21*135	123456	314151	13
	146264		462252					462	513465	532134	
	135131		46221*						213242	6*2	
	254146								612323		
	5132								*3125		
15	4261	464213	462246	463462	132465	135462	135246	135462	123456	153461	153546
			464246	13	521321	13	213*13	1*1352	513426	215135	213
			246464		3		52462	46	246131	213456	
			2*642						352	2	
16	124653	46213	462462	462462	132465	135646	135466	135462	123456	151531	153462
	126215		46	13	521321	2213	213	213*13	251364	213456	13
	151*				3			135642	224624		
								1	13		

R/TS5 guesses 4/25/2003.
Adjusted guess/entered guess when differs

Game/Sub	1001	1003	1004	1005	1006	1007	1008	1010	1011	1013
1	630	630	630	630	630	630	630	630	630	630
2	650	650	650	650	900	650	650	650	650	650
3	900	900	900	900	900	900	900	900	900/1000	900
4	318.5	318.5	318.5	318.5	591.5	318.5	319	318.5	318.5	318.5
5	472.5	472.5	472.5	472.5	472.5	472.5	472	472.5	472.5	472.5
6	122.5	122.5	122.5	122.5	122.5	122.5	122.5	122.5	122.5	122.5
7	220.5	220.5	220.5	220.5	220.5	220.5	220	220.5	220.5	220.5
8	367.5	367.5	367.5	367.5	367.5	367.5	367	367.5	367.5	367.5
9	500/975	500	500	500	500	500	500	500	500	500
10	300	300	300	300	300	300	300	300	300/122.5	300
11	375	375	375	375	500	375	375	375	375	375
12	900/990	900	900	900	900	900	900	900	900	900
13	709.8	709.8	709.8	709.8	709.8	709.8	710	709.8	709.8	709.8
14	150	150	150	150	100	150	150	150	150	150
15	100	100	100	100	100	100	100	100	100/52.5	100
16	112.5	112.5	112.5	112.5	150	112.5	113	112.5	112.5	112.5

Ass.Type	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3
#right(0.5)	16	16	16	16	11	16	16	16	16	16
#right(25)	16	16	16	16	11	16	16	16	16	16

Alt. type
#right(0.5)
#right(25)

R/TS5 look-ups
Game

1	462135	462462	462464	462352	146252	462315	462135	465464	462546	462315
	21364*	642315	621354	3*4646	31	546234	462462	623156	134631	423*46
	246231	46231*	623*46	25352*		623155	65231	42*	2*4625	231546
	52	462315	25462	462546		2			46312	4
		46231		132						

2	462135	462315	462466	623156	46253	134646	462135	465231	462315	462135
	642562	6462*4	13562*	46231*		231562	6213	465213	66231	623*46
	223146	623156	462135	546231		346263		156412		2562
	2562*6	462	4662	64562		5562		646256		
	2							23*		
3	462315	464231	464623	462313	462533	134622	462315	465464	462315	462315
	623462	5623*4	15623*	556232		356223	256235	652315	4623*3	623*46
	45*	646231	462315	*46235		*	462135	623*	231	256
		5623	462224	6423			623			
			625623							
4	462135	466423	464621	465231	4625	134621	462135	465231	462154	464645
	21*246	154621	346546	564213		*46256	46213	546525	621	621564
	252	3*4625	2*4621	*46231		13		6231*		3131*4
		64132	35462	5462						621542
5	462135	462315	464621	462315	642531	462132	462135	465252	462135	464621
	23*462	46231*	354623	46231*		5423*4	46213	3*	46231	354642
	641352	462315	*46221	462135		625				13*462
		462	354621	642						315462
			3							
6	462135	465213	462134	462135	462521	461346	462135	465246	462135	462135
	421*46	54621*	5421*4	4621*4		252464	46213*	464526	46213	4621*4
	254652	465462	621354	625462		562121	146254	423246		625132
	462462	135462	6213	13		*46464	613254	235421		
	52	31				465225	624652	*		
						2				
7	462135	462135	462135	462135	462531	462136	462135	465423	465252	462135
	231*24	46213*	46213*	46213*	*4625	451522	246213	152642	246213	46213*
	462521	462135	465464	464652		*46255	546213	13*	546213	546213
	364	46213	625213	135462		132				5462
			546213							
8	462135	462135	462135	462135	462521	462135	462135	464231	462135	462135
	24631*	46213*	464621	46213	3	425462	46213	546256	64213	64231*
	46252	462135	3*4622			526221		4231*		462564
		462311	135462			3*4656				213
		3	13			422251				
						32552				
9	462313	464621	464623	462135	462523	465132	462134	464523	462313	546213
	356423	354623	131546	6423*4		464626	623546	132462	256452	564213
	*31256	13*462	23*462	646231		356233	23	464646	313*31	*54621
	4	356423	356423	35642		*46252		235262	462233	35462
						35		3123*	35642	

10	462135 214563 2*4625 2146	462135 46231* 414623 154642 31	462135 46213* 462134 546214 64621	462135 4621*4 646254 621	462521	462513 264642 213254 5621*4 621352 11	462133 154642 1*4623 154621	464546 251236 456452 646463 354212 31*	462135 465211 4*4625 25462	462135 462121 *46213 5421
11	462315 2363*4 621352 3	462135 4231*5 462356 4231	462135 46213* 462235 462133 546213	464621 351462 13	46253	462513 132465 236452 13*462 35212	462355 462352 3*4623 52	465231 646213 564213 462464 624631 464623 546211 356*	462462 135463 5213	462315 464213 *46235 46213
12	bc: 462135 636223 *4625 ac: 462525 356523 *	462315 623*46 231562 3	462135 46213* 46 213562 3	462135 623*46 3	464625 3	462135 121234 563623 *46256 23	462315 623*46 235623 3156*	464523 156462 3156* *3	462135 462313 *46256 23	462315 654623 *46256 23
13	462135 6423*4 6252	462315 315642 31*462 315646 231	462135 465246 213*46 213546 2133	462462 356423 1*4621 356423	464625 3*4625	461346 223154 623564 231*46 462235 22123	462315 642*46 2352 156421 3*	464526 464623 156421 3*	462315 46213 623546 231	462315 462464
14	462521 3*4625 244624 21*	464623 156423 1*4621 35642	462135 4621*4 621354 6213	462461 312315 421*46 2542	462521	462135 544652 13*462 123541 2	146213 5421*4 646213 54213	465231 264254 213* 54213	462131 54621 21*642 5421	464621 325464
15	462462 135462 13*462 5412	464621 354621 *46213 535462 11	464462 135462 1*4621 354621 314464 621354 6213	462134 54621* 462135 4621	46251	465213 213554 5621*4 621351	462465 421*46 252*1 13*	465231 564252 13* 1	462461 354642 121*56 462545 421	546462 153542

16 462135 462135 462135 462135 462521 461344 462451 464623 464621 462132
621*46 46213* 46213* 46213* 621354 356421 154625 354621 54621*
21523 462135 464462 462135 625465 3*4625 463121 462215
46213 135462 462 131321 2 * 465421
13 *46546 3
256421
3

R/TS6 guesses 4/30/2003.
Adjusted guess/entered guess when differs

Game/Sub	1101	1104	1106	1107	1108	1109	1110	1111	1113	1114	1115
1	611	630	475	630	611.25	600	611.25	611	420	630	712.5
2	650	500	780	650	650	650	650	617.5	780	650	578.5
3	900	900	704	703	900	838	900	839	900	900	838.5
4	451.5	423.15	605	604.5	423.15	451	432.25	423.15	318.5	450	397.95
5	341.25	341.25	500/750	341.25	341.25	450	341.25	341.25	472.5	480	258.75
6	122.5	100	123	264.25	122.5	160	122.5	122.5	122.5	180	189.35
7	227.5	230.3	219	227.5	227.5	450	227.5	236.25	220.5	320	225
8	420	340.38	420	420	332.5	500/900	420	420	500	500	450
9	500	500	500	500	500	400	500	500	500	500	450
10	300/140	300	300/140	300	300	300/200	300	300	300	300/170	300
11	262.5	215.63	263	243.75	262.5	431	262.5	243.75	375	370	175
12	900	900	900	900	900	900	900	900	900	900	838.5
13	463.7	567.64	587	586.95	464.1	465	604.5	587	709.8	550	604.5
14	150	300	100	150	150	200	150	200	150	140	200
15	100	100/80.12	100	100	100	175	100	100	100	100	150
16	118.75	131.25	132	131.25	131.25	150	156.25	119	112.5	220	100

Ass.Type	D2	D2	D2	D2	D2	D2	D2	D2	L3	L3	D2
#right(0.5)	13	8	7	10	14	3	14	9	13	7	2
#right(25)	14	11	9	13	14	5	16	13	13	11	3

Alt. type
#right(0.5)
#right(25)

Subjects 1107 and 1113 crashed and were restarted. Their guesses before the crash (bc) are listed in the table, and their guesses and look-ups before the crash are used in the analysis. Both look-ups and guesses before and after (ac) the crash are listed in the look-up sequences, with g denoting guesses either bc or ac.

R/TS6 look-ups

Game

1	513462	123456	123515	bc:	135465	153462	135464	123456	bc:	134654	426613
	624646	224515	346462	123456	513131	3	2646*1	463125	462513	624625	23
	313626	143635	46	123242	544612		313	115436	g:420	213	
	135361	462413		4536	456546			533634	ac:		
	414514	631351		g:630	234646			241626	462525		
	536463	551546		ac:	66*4*4			363425	22		
	151435	233		421452	513136			241123	g:630		
	652416			424421	14644			133121			
	235546			562632				354565			
	151463			652				414466			
	114646			g:630				551322			
	231							154631			
								313153			
								*35533			
								64231			
2	525136	123456	153152	bc:	131511	515331	135134	132456	bc:	462135	424641
	466424	151515	435242	142642	314164	4623	642163	351541	462513	646662	535315
	132661	435356	6**5*2	452524	411561		451463	563515	g:780	13	135152
	342441	462123	56	242131	151464		211136	515653	ac:		461513
	313465	564151		142425	214551		414262	515545	462523		514624
	456446	321324		636361	515154		135362	655145	1		246213
	125136	464624		456625	114113		*14654	223266	g:900		
	244126	631233		245622	661132	6		531536			
	313465	256566		g:650	151311			216461			
	466546	452465		ac:	113325			515241			
	312462	*15513		424215	411564			545123			
	13	365362		632652	564111			133131			
		462233		*42142	132456			264262			
		13		566545	445415						
				262635	152312						
				652635	325412						
				626335	345655						
				65426	2562						
				g:650							
3	132465	123546	42*25*	bc:	132456	132551	135342	123564	bc:	462354	426153
	251352	314236	623	442415	451364	131462	614253	525631	462513	66323	6253
	3*1364	136143		136326	442465	3	64*1	452444	g:900		
	5			36356	251436			653425	ac:		
				g:703	412331			336541	462546		
				ac:	142354			321452	253		
				421542	445513			266325	g:900		
				263635	312*14			114362			
				62	446131			311325			
				g:900				14125			

								1113 all ac from now	on	
4	154313	123456	24*15*	bc:	153514	513262	135464	123654	462521	462135 426641
	564421	514413	265	142542	624644	31	261546	566431	13	535115
	461623	366362		424214	414451		2	463524		521134
	154235	213665		551436	124635			146352		651132
	564621	135451		265321	153*45			552265		546456
		123365		g:604.5	551351			351552		
		552		ac:	364516			515146		
				421515	423626			451313		
				455263	312646			536242		
				262626				124126		
				5213				231325		
				g:423.15				515556		
								553512		
								154632		
								512415		
								152626		
								255255		
								153652		
								413512		
								253131		
								643213		
								1*646		
5	514136	123131	14215*	bc:	125155	153462	153464	123265	462521	464625 426645
	521514	234563	623524	424151	344631		261315	413645	3	46213 131535
	635364	142525	221*62	624152	512435		352 **1	222413		134651
	241362	453242	352	422622	565123		534623	652125		525426
	652646	623546		633235	333326		5	262545		465313
	524515	23		213	235251			364415		546453
	146353			g:341.25	152451			146552		213
	642412			ac:	146324			312*31		
	651432			421526	151514			64		
				325213	14225					
				g:341.25						
6	123456	123456	42154*	bc:	151345	153462	153464	123645	462521	465213 426415
	315453	123512	62352	421526	364322	462613	216231	214632	3	542112 364251
	642414	351543		526326	442156	55461	313151	521524		464646 345353
	615126	536534		35132	262333		532	153626		213254 146454
	365143	212321		g:264.25	262342			623536		213 565134
	562	553513		ac:	412514			452213		655153
		513242		421515	632*25					134426
		655135		454462	551324					221346
		31*515		632635	242613					553266
		324222		45213	143522					4
		351		g:122.5						

7	123456	153646	421*62	bc:	251324	153462	153464	123245	462521	462515	426246
	361452	246265	3152	421532	162324	463151	263146	626364	3	123	153465
	514536	552535		626262	242635	1333	4*1214	152242			261534
	241631	62		5632	526142		642613	126325			652646
	452134			g:227.5	652213		5	655351			135
	451563			ac:	222665			543655			
	626551			421542	616*45			641522			
	356242			635112	251356			256541			
	646315			3	124456			633465			
	553642			g:227.5				451523			
8	521463	132456	4215*6	bc:	255522	13	426131	123215	462521	465251	426153
	151435	123123	2352	421421	515351		563462	465631	3	311564	513462
	653412	123112		526335	513524			412345			464521
	412634	351364		353546	162311			624162			642125
	625365	221335		521321	133361			325154			426465
	12	152314		g:420	355124			565353			123215
		6		ac:	151111			546122			353154
				421545	135522			564231			261542
				263512	*22455			2			614561
				3	115						
				g:420							
9	514364	123145	421364	bc:	513252	132	426213	123456	462562	462513	426153
	536241	652151	25*623	421311	446266		141536	145236	3		515326
	352631	543562		262626	312423		354646	362412			453215
	613354	416316		262422	124623		223	412326			264246
	536421	362623		623353	522425			231125			123242
	555114	232342		354563	253555			415153			413134
	245154	35		23	655523			452455			242451
	2323			g:500	2			121456			515313
				ac:				235365			426442
				421425				456526			6
				263263				535646			
				5132				232515			
				g:500				132453			
								424352			
								135644			
								566533			
								565515			
								151515			
								231521			
								365552			
								241254			
								262325			
								235353			
								353232			
								1*5124			
								515531			

10	514536	123456	4215*6	bc:	451535	153314	426135	123456	462135	462513	426215
	541634	114335	2352	421421	141135	622463	531321	456151	42131		313542
	625141	654513		526335	324212	11	*15463	453653			646212
	263351	121321		421515	623212		51351	645224			642422
	32*13	531		351212	512426			162632			135135
				31	132212			553121			461532
				g:300	255513			322123			142621
				ac:	521			211213			531542
				421526				1*1			42631*
				352132							1
				g:280							
11	514536	122314	4251*6	bc:	151351	153462	153465	123123	462325	462513	153426
	424126	633132	2352	421241	346535	463142	346242	456514	46213		426426
	314251	466514		512421	242625	5423	631425	535654			315312
	653435	534312		263355	251324		465462	526421			3
	432615	426515		132213	552631		13	231515			
	244635	545532		g:243.75	514424			453213			
	423513	352		ac:	2*4512			2			
	514534			421542	426651						
	4532			426351	443354						
				32	2						
				g:262.5							
12	514536	123541	42135*	bc:	513533	153462	115136	123123	462356	462513	155135
	245214	363625	623535	424212	246224	463652	415242	654143	23		464265
	635254	415135	3	414245	426324	145	623153	652521			13241
	623	624632		326352	125246		623	232125			
		2		3	224615			556544			
				g:900	512512			32364*			
				ac:	3			155234			
				421521							
				456263							
				52							
				g:900							
				1107 all ac from now on							
13	215241	123153	4215*6	421425	513244	153456	153426	123123	462315	465251	153462
	364115	416362	23552	263512	446322	365241	35642	456364	6423	3	132515
	146536	514143		32	52242	463224		152151			314262
	424421	536422				631315		453652			42132
	326145	462513				15213		242413			
	312435	54523						562653			
	544535							*53626			
	326346							5231			
	2										

14 514536 122354 421*62 421421 513244 134621 153424 121232 462135 462513 153466
 642412 563614 5521 554263 662524 126315 313465 4213 151641
 635464 511436 265252 262654 426642 252514 354614
 532136 542124 6521 2465** 2 635262 261152
 544221 623514 221545 341254 412631
 346 356525 465113 532653 545312
 4 251324 526256 462456
 21 464526 5213
 253512
 426235
 453525
 645213

15 514536 123636 4215*6 421526 132513 461321 153424 123212 462135 462513 153524
 624126 412513 252 326541 462246 3 146254 312321 46211 615346
 351453 534331 2 251143 224642 456365 154261
 642134 524263 326545 134256 245125 326461
 652 125555 226422 264352 365262 535462
 21 1 654554 426134
 21 6213

16 514536 153436 4215*6 421526 151331 134651 153464 123654 462135 462513 153242
 124263 235365 25213 352651 354246 353642 215662 145236 46213 646153
 653512 234221 364132 662462 521 52 353245 242226
 663265 265536 13 655511 145536 461535
 151463 2146 36521 241632 462612
 546213 524152 126212
 1*3146 461
 552

R/TS7 guesses 5/1/2003.

Adjusted guess/entered guess when differs

Game/Sub	1201	1202	1203	1205	1206	1208	1209	1210	1211	1213	1216
1	630	611.25	450	750	600	525	525	630	525	900	630
2	650	650	650	650	300	650	650	650	650	676	650
3	900	900	900/1000	900	600	900	900	703.5	900	900	900
4	319	423.15	300	300	300	546	546	604.5	546	300	318.5
5	473	341.25	100	500	500	315	315	227.5	315	500	472.5
6	123	105	100	100	100	105	105	122.5	105	500	122.5
7	221	227.5	350	350	350	315	315	227.5	315	147	220.5
8	368	420	300	500	500/650	420	420	420	420	300/245	367.5
9	500	500	300	500	450	500/780	500	500	500	300/1	500
10	300	300	300	300	500	300/140	300/140	300/140	300/140	300	300
11	375	262.5	100	150	250	225	225	262.5	225	500	375
12	900	900	900/1000	900	400	900	900	900	900	900	900
13	710	604.5	390	390	400	455	455	604.5	455	900	709.8
14	150	150	150	150	200	175	175	150	175	125	150
15	100	100	100	100	150	175	175	100	175	100	100
16	113	131.25	100	100	150	250	250	131.25	250	150	112.5

Ass.Type	L3	D2	Eq	Eq	Eq	L2	L2	D2	L2	D1	L3
#right(0.5)	16	15	11	16	5	16	16	12	16	1	16
#right(25)	16	16	11	16	6	16	16	13	16	2	16

Alt. type										L2	
#right(0.5)										3	
#right(25)										3	

R/TS7 look-ups

Game											
1	122345	246466	132465	123456	132546	135462	135421	114253	131356	264242	462135
	621546	135464	64165	424652	134656	132465	3*2552	615435	422*41	3*264	462135
	26123*	641321		562525	41132	*52		642451	355544		64213
	546252	342462		6352*4				162633	6231		
		422646		65				554366			
		124625						645522			
		5*1224						3			
		654646									
2	456123	123645	134625	123456	136421	13523*	135646	143625	113564	264242	462546
	456213	132462	31626*	244565	35	565646	315626	551462	231*11	423	312462
	456562	426262	56411	565263		231*56	2631*6	253641	35642		462546
	3*4626	241356		212554		2	23	524152			231*46
	256236	462*13		146662				413266			246462
	5623	524242		654251				353622			135462
		466135		44526*				516663			13
		6462		31				5423			
3	456231	123456	134652	123456	132465	135642	136523	134625	131564	264242	464623
	645623	412536	54163	456253		*13564	231526	515355	213131	3	146256
	*46525	151135		636		23	3	566631	315264		254631
	2	242461						4	2*3*35		566225
		461313							246132		4623*4
		546423							53		624613
		1*2463									5623
		4243									
4	146461	123465	136452	123456	123654	135642	135623	135246	113523	624221	462135
	321346	251324	144552	564136	1	*13564	*6	424515	654123	*2642	251346
	546213	626413	632352	424261		231		362412	2*1313		21
	*46254	154664	12	251464				623553	5642		
	6123	464613		145515				415151			
		522*21		5246*1				31			
		331		3426							
5	465123	123456	134652	123241	123645	1352*1	135623	135135	135645	26423	462135
	125462	213645	525632	426631	23	356426		246152	62*132		462134
	13*462	213246	5141*4	452213		431		551514	52642		613252
	513546	13552*		362526				536462			5213
	213	524613		25242*				421562			
		52		312565				632151			
				456545							
				654135							
				3							

6	465123	123456	132456	123142	463125	135642	135642	134625	131325	26423	462135
	213465	134246	254531	662342		*13546	1	134621	254612		246251
	461235	1352*1	25	521311		4213		111125	3*1313		354613
	213*46	152416		2552*1				154356	546241		213*46
	213546	352		32				532463	3		251346
	2							314632			2
								52131			
7	465132	123645	132546	123246	131246	135642	135623	134625	132546	262426	462135
	134652	213421	523144	265523	521632	13*135		514536	213*13	2421	462131
	46213*	623132	312153	652*45	*46	642		642412	546213		*46254
	461325	352*12	2	6321				635153	2		62
	21346	345565						236365			
		124126						464646			
		5462						5*2246			
8	465123	132465	132356	132463	164213	135642	135621	134646	13252*	26421	464621
	224565	241623	431415	125252		31*135	3	513513	135264		354621
	64231*	151346	2*3625	461523		642		426515	264132		3*4621
	462135	2*2412	522	654*32				353646	15		354646
	246	63135		4132				244221			46213
								623326			
								654513			
								2			
9	465123	134625	123564	112312	642463	135642	135642	134652	132546	264231	464623
	252643	132426	365524	354142	146	3*1352	313562	522455	231*51		146223
	23*462	631134	32141*	421246			1	145364	351352		462642
	523	5462*1	63	213523				646241	64231		642356
		31313*		252353				412563			423*3
		3		*31244				363325			
								351223			
								222232			
								*33562			
								421313			
								512			
10	461352	134613	123564	122314	462546	135465	135642	136425	132546	264221	462513
	546213	241263	151361	246226	213*3	21	13	252415	213*21		462546
	431545	135151	114231	113152				114153	354652		2121*4
	1*4625	34612*		215*46				536351	13		621364
	1254	121		545654				536524			521354
				241513				126232			62131
				351312				*55555			
				515				153512			
								4625			

11	462132	134625	123564	125252	465231	135462	135642	134625	131354	264231	462135
	465346	246135	125314	426132	3	1*1352	13	151113	6213		46231*
	464354	354612	1254*3	552142				515145			462315
	621521	3*13	653	1425*4				365313			354652
	3*4623			565153				241655			31
	546213			542545				632651			
				255				514114			
								3312			
12	462521	134625	134652	456422	464626	135642	135642	164352	131546	262424	462315
	325456	131324	26313	463152	31	3*1356	31*513	511535	253	23	656123
	23*456	613546		132536		2	5623	365151			2*4623
	214362	23423		24136				32353			15563
	5466										
13	461352	134625	132456	123245	46213	135642	135462	134625	135462	263412	462135
	462462	246313	523142	624261		*524	13	551515	13		645462
	354623	54462*	415212	325522				153516			3*4622
	1	13	124242	541*25				536264			135642
			2*364	241235				244113			31
			6					451145			
								353265			
								34523			
14	464465	123456	123456	124146	462314	135642	135462	131462	131354	232624	464622
	213251	462461	523641	225123	142	1*1352	13	525515	62131	21	564315
	354621	354642	42512*	451231				365242			46213*
	3*4621	13*2	1424	451242				142626			462135
	235254			5441*2				241262			421
	213			546541				651144			
				312554				251453			
				153546				5421			
				54452							
15	465123	134625	123456	426426	246224	135462	213521	132465	132546	263424	462135
	215421	132462	314256	135254	1352	1*1352	3	151535	213	21	46421*
	23*462	135462	336521	641125				652426			462135
	522134	13	*4152	525				153564			464521
								524515			1
								545221			
16	465123	132465	123456	123542	242463	13562*	135646	134625	132546	264321	462135
	254614	124613	235626	613626	156241	135623	213	151545	2*		46213*
	6213*4	526515	541523	521441	3*4646	1		354424			466425
	621354	424546	623614	*56415	526413			262265			213642
	6213	5462	*52	153645				536466			154621
				241241				451545			3
				525				146262			
								51			

R/TS8 guesses 5/6/2003.
Adjusted guess/entered guess when differs

Game/Sub	1303	1304	1306	1308	1309	1310	1313	1316
1	750	900	450	600	675	600	630	630
2	390	650	650	618	617.5	617.5	618	650
3	900	900	900	839	838.5	900	541	900
4	300	300	300	452	451.5	451.5	423	423.15
5	500	350	500	338	337.5	337.5	341	341.25
6	100	220	100	123	122.5	175	123	105
7	350	350	350	315	227.5	227.5	228	236.25
8	500	500	500	420	420	420	420	420
9	500	475	500	500	500	500	500	500
10	300	300/175	300	300	300	300	300	300/140
11	150	500	150	225	262.5	262.5	263	243.75
12	900	625	900	900	838.5	838.5	900	900
13	390	450	390	455	604.5	465	587	586.95
14	150	200	150	175	200	200	150	183.75
15	100	250	100	175	200	230	100	100/61.25
16	100	170	100	163	162.5	162.5	225	131.25

Ass.Type	Eq	Eq	Eq	D1	D1	D1	D2	D2
#right(0.5)	15	6	15	10	14	12	11	10
#right(25)	15	7	15	12	14	12	13	15

Alt. type
#right(0.5)
#right(25)

R/TS8 look-ups
Game

1	133254	123456	251346	515364	123456	513463	134625	153426
	564631	362635	214564	623124	456212	121135	215421	15*533
	566*42	145266	436*24	6	351443	143642	412515	542526
	546625	563656	544114		536644	13*213	445632	256256
		3	36436		241362	2	564131	354252
					55		524136	632523
							264613	5
							513246	
							214613	
							154623	
							262523	
							13245*	
							115435	
							356413	
							524513	
							513542	
							21213	

2	425664	123566	251436	514364	132452	213546	132456	153246
	13*621	252541	62623*	516231	416352	515143	515354	465461
	356442	352526	515136		322412	564623	651424	542535
	546613	5626**	2		635512	12*564	262134	654646
	*42564	1			124625	514362	135622	415462
					142536		*13246	42623*
					451462		531464	62
					2		613532	
							462151	
							154216	
							231132	
							456	
3	134625	123456	251436	514366	121234	514363	153246	132461
	66235*	26523	32*32	42	562453	546515	512346	346251
	412632				146325	436423	515354	346153
	541				2	112142	652312	426425
						462*23	2314	325*36
						*3		
4	251346	123456	251436	514362	123645	213654	132465	123465
	524562	541235	236414	52123	251231	514635	213461	215362
	252135	652563	51*214		236455	213653	515356	615642
	462132	256252	525		145364	41425*	424613	631562
	*13461	641652			155214	151536	246135	534215
	535614	5411			126231	462131	146135	625215
	54				313265	262	241515	625362
					2213		153153	
							246521	
							346125	
							1346*1	
							315364	
							642165	
							236213	
							61352	
5	134625	236526	253614	514365	123456	256413	134625	131534
	623542	532541	43*355	21332	252525	251513	22513*	263426
	54*135	254262			514534	543652	513641	242642
	425236	3*1			642421	132546	521325	651535
	6252*6				262	421363	662	426356
	546					523121		425625
						354624		425625
						136522		135125
						416314		6252
						252546		
						312525		
						413521		
						523*52		

6	134625	142536	251436	514364	123456	254136	134625	153534
	412562	244216	522*25	5213	123456	461325	136413	264262
	42542*	313265	254632		514553	421354	24652*	625645
	562142	255	5		4621	635132	462154	215425
	4					1*5264	356413	625356
						546354	624213	252356
						524635	462415	256254
						21*265	32	256253
						2		535625
								352424
								242515
								625452
								156253
								535625
								625625
								623515
7	251346	123545	256314	514351	512365	512364	134625	153153
	134625	626631	5623*3	213	412351	123652	*13462	426361
	426563	26562	65		245153	514356	513314	421563
	252563				663125	426213	564262	523515
	2*656				462521	56*546	134546	6252
					3	535642	6522	
						365412		
						525465		
						256314		
						563214		
						562314		
						631254		
						621242		
						635362		
						*52415		
						645252		
						*11465		
						2		
8	134652	123456	253614	514631	123456	254136	134625	153153
	634162	521246	36*521	136454	123123	521436	**1346	542642
	5352*5	311623	463112	2323	456451	251351	154356	645152
	362532	52	445415		145334	463515	421264	156256
	425415		136		645646	24613	421625	362565
					42		465625	354521
							315364	565265
							241642	626356
							625554	225152
							652132	
							21346	

9	461325	123546	253614	513642	123123	514536	134625	153514
	633355	124264	365264	3	123123	462132	3*1543	625452
	236142	6312	13*32		654646	123545	566442	526523
	133*56				511152	656356	162345	565235
	413242				626242	451313	621354	323
	134646				636262	256513	623231	
	521346				424113	645232	145352	
	356136				551455		463521	
	46235				333641		3	
					532313			
10	134625	123456	251436	513462	242162	514153	132465	153246
	251421	524665	541521	13	132513	431321	154356	452652
	5421*5	2			145145	212654	421262	351543
	361465				363152	136541	153554	565263
	24231				12	345212	545221	545215
						1212	313465	2
							621324	
							153241	
							263221	
							3	
11	134625	123456	252513	513464	132456	523146	134625	153153
	454254	522426	632455	5132	322426	255143	154356	246245
	626335	52	342425		324124	645421	442162	265235
	2*1524		452*24		133215	3*22	326531	354521
	646246		15236		145356		413456	515235
	335525				462621		355121	65252
	255214				241231		3*2314	
	42*542						65	
12	134625	123456	251436	513514	123654	215324	132465	153462
	113464	521224	325*25	623	123654	632145	213641	541346
	25362*	261266	41		51532	632145	515623	521536
	25	222315				632513	12	524524
		13				6426		526523
								5352*4
								2
13	134652	123456	251436	513642	213456	513642	134625	153465
	242542	212246	125415	13	312526	541365	131543	265235
	2*5254	232	443236		232421	241523	564421	154523
	142213		3*5223		413132	654152	632513	563652
	245424		*145		514535	351436	154421	352
	254542				364622	5312*5	543564	
	55				313	25	262352	
								1

14 134625 123456 251452 513134 123654 251364 132465 153246
 245144 124162 124365 64213 212262 123654 415436 153452
 1*5425 12 412*12 413615 123654 564142 625652
 42541 542 145355 123613 626465 352152
 564151 465251 465465 545235
 46213 364513 626215 652353
 534644 435421 52
 6213*5 625541
 462 2121

15 134625 123456 251436 513245 123654 513246 134625 135354
 41215* 212412 25*123 465413 152412 253145 135145 625625
 123644 625552 65452 1 632514 623145 135335 615235
 125241 26 536422 632145 644216 652452
 213241 632546 254565 353565
 26232 315143 461322 263541
 645212 1 25652
 312136
 5231

16 134625 123456 251436 513146 145236 251364 134625 153262
 41632* 212426 214*36 415163 524126 215321 111543 452152
 562146 1 56 133656 135145 456514 564213 625356
 255625 1612 362 365461 262315 526565
 421515 5621*5 4352 215452
 25 5262 156526
 145252
 *35652
 152545
 252

R/TS9 guesses 5/9/2003.
 Adjusted guess/entered guess when differs

Game/Sub	1401	1403	1404	1405	1406	1408	1409	1410	1412	1414	1415	1416
1	600	750	750	750	750	750	600	469	630	525	600	620
2	692	650	650	650	650	650	617.5	650	650	650	650	650
3	780	900	900	900	900	900	850	900	900	900	838.5	900
4	546	300	300	300	300	300	451.5	300	318.5	546	451.5	423.15
5	315	500	500	500	500	500	337.5	500	472.5	315	337.5	431.5
6	105	100	100	100	100	100	115	100	122.5	105	122.5	122.5
7	315	350	350	350	350	350	227.5	350	220.5	315	227.5	227.5
8	420	500	500	500	500	300	420	500	367.5	350	420	420
9	500	500	500	500	500	500	500	500	500/975	500/780	500	500/926
10	300	300	300	300	300	300	300	300	300/122.5	300/210	300/140	300
11	300	150	150	150	150	150	262.5	150	375	225	262.5	262.5
12	600	300	900	900	900	900	820	900	900	900	900	900
13	455	390	390	390	390	390	580	390	709.8	455	604.5	762.45
14	175	150	150	150	150	150	200	150	150	175	232.5	150
15	175	100	100	100	100	100	150	100	100/52.5	175	175	100
16	425	100	100	100	100	100	175	100	112.5	375	325	131.25

Ass.Type	D1	Eq	Eq	Eq	Eq	Eq	D1	Eq	L3	L2	D1	D2
#right(0.5)	4	15	16	16	16	15	11	15	16	14	11	13
#right(25)	8	15	16	16	16	15	16	15	16	14	12	14
Alt. type	L2										L2	
#right(0.5)	10										6	
#right(25)	10										8	

R/TS9 look-ups

Game												
1	123145	123456	123456	123365	123345	123123	122365	122365	146231	132524	125463	131324
65		123615	452125	445612	636523	456445	451453	433326	564623	642	364113	565456
		345636	423613	345662	314363	632132	664231	523165	1		146456	626342
		526362	263412	263241	252526	11	2*1251	265232			465131	131341
		356326	632623	245514	144532		453462	6			331354	514516
		256323	156466	536255	312536						621513	636235
		663632	546545	462522	232323						146122	665645
		62*412	6332	232562	562325						111134	262
		356		545525	653*12						61352*	
				252523	321414						13*246	
				566232	111412						513	
				626236	145541							
				565421	23							
				335252								
				566235								
				256252								
				3523								
2	123533	123456	123654	123654	123456	123456	123456	123656	462462	134656	456413	154531
2		543626	412362	262365	361436	456123	135364	563236	546231	231	151515	646134
		263626	566262	623122	365232	643524	515164	255623	546231		151535	242256
		262365	311525	4623	112361	1	212311	562*12			364141	2*2141
		256352	641254		452522		313*22	365216			311614	432626
		636263	421546		541452		513365	2			315551	4262
		612141	231356		362526		651456				362223	
		251413	542315		353225		2				13	
		36*236	6425*5		656256							
			52		532*43							
3	123132	123456	123652	456226	123212	123456	123654	123652	464664	136453	141453	141546
5213		321456	146325	262355	123212	123456	514536	653326	523156	122135	516422	356366
		321452	141213	623656	456641		446223	2541	23	135231	124626	141642
		361425	645531	212125	136412		131231			2	663335	463624
		363625	3213	3614	525236		1*1235				143622	6
		141414			632514		136426				212*31	
		253625			141425		4					
		141425										
		36*363										
		252514										
		141425										
		25236										

4	123132	123456	123645	526622	123654	123445	123654	323265	464625	136455	513411	154636
	52	321236	216356	352156	522523	625143	546514	632652	315462	252316	633364	342424
		353236	223156	252521	614142	636362	564264	362355	465642	4231	35213	62621
		323532	542315	525252	354151	521465	*41236	665625	1			
		626565	654215	542152	414515		513513	625252				
		365226	435415	436156	524145		535515	541451				
		262624	642135	54	555553		3642	535624				
		141254	6542		625245			626513				
		145625			521221			266565				
		256264						656214				
		112414										
		142541										
		154154										
		424154										
		241545										
		11111*										
		151542										
		425152										
		151										
5	135213	123456	123654	246262	123456	123456	123654	123652	461323	136451	451343	154356
		312326	123654	356231	364125	212345	251453	365253	154623	32213	564163	351422
		362621	136521	226523	222635	663141	46522*	23	13		523132	362631
		425225	542135	242426	625323	425	555551				313	632614
		432533	462135	352	233222		453642					142142
		235532	636235		233145		1364					362635
		323232	356462		252252							256362
		323232	3523		121265							2
		3523*3			3232							
		625141										
		42536										
6	13521	123456	123645	263525	123123	123456	123654	123654	462132	136452	513463	154135
		362615	234135	421541	456323	561234	631251	123656	134654	1	353422	363353
		626263	642131	2	535321	563415	453642	223363	621		13	424142
		636323	565425		414251	236	2*1545	521444				623264
		214154			412521		346223	12				214215
		151515			254221		244					454545
		152151			256363							515115
		525154			636625							353523
		136251			232535							535626
		245			323522							314213
					2221*1							623151
					4							43521
7	1352*1	123456	123654	263515	123214	123456	123365	123656	461321	134651	513364	151353
	3	123456	123662	621356	563146	361425	455145	621356	354621	32132	151622	136461
		456123	362135	223246	325253	215236	36213*	2	3		514356	242123
		123123	654233	52	631462	2514	555145				3613	623623
		533232	2152		535252		353624					536262
		62*256			552323		356					543213
		62			255262							
					2*2							

8	135213	123456	123654	263562	123654	123123	123654	236562	465132	134653	135115	154621
		123123	152634	523562	414365	456523	562135	3562	135642	122	356354	535356
		533235	151564		252361	253654	153564		13		563513	414216
		656323	231135		425235	153236	213146				212323	262323
		232325	564232		323532	364563	3					5231
		632536	135654		235621	211231						
		636363	23		411412	41						
		632563			521452							
		635352			525214							
		533532			412521							
		353363			414121							
		3*5532			451223							
		322514			223155							
		142514			514511							
		414141			363143							
		214241			636363							
		211123			25							
9	135213	122345	123654	263656	123214	123123	123654	656262	462313	134655	513416	131461
	523146	632363	125363	23562*	563631	456536	551453	356232	564213	312	351352	535635
	3	636326	353564	246	413632	142512	564231	52	231354		313146	136464
		321425	231542		523626	345612	235231		621325		353526	214251
		335526	5623		353233	3231	515346		3		321534	231425
		363536			323563		645644				533623	623535
		3563			214142		564231				134136	231
					3*5326		544533				536423	
					3253		*53546				213	
							464646					
							54231					
10	135213	123123	123654	265326	123654	123445	123654	656235	465213	135465	513541	154153
	54613	123456	412536	235212	136452	612345	515346	462361	54621	132	635334	535362
		123456	314521	232632	255145	611245	2132*1	215425			12133*	363531
		312314	546212	521542	412421	236552	121123	4			513442	421621
		114251	315421	1525	414544	124613	654511				16353	214344
		421552	355642		121463	2	345352					215415
		1*1414	132564		633232		221213					213
		253632	1		325352		153132					
		362525			122332		11					
		1414			12321*							
					455121							

11	135213	123123	123645	263542	123545	123456	123654	651233	465213	134651	225134	154135
	5251	456545	412536	354212	636251	562323	513523	233654	546213	32	353635	342421
		632322	325413	542154	452523	143251	145632	523542			13232	546235
		353535	256356	215421	653525	246425	145514	125223				21
		235314	421356	525421	235253	*1	65132*	656541				
		125525	545623	246545	253532		255254	231236				
		212522	156542	*1	523452		3	542141				
		152154	154552		122141			313516				
		154425	*42155		415251			123462				
		414414	412		512412			135132				
		142*14			454*42			635421				
		254215						253542				
		353533						42				
		356262										
		65252										
12	131352	123456	123654	2635	132456	123456	123665	326541	462315	134651	513435	154356
	131	321456	125631		463125	456123	451151	652356	64623	32	636145	415424
		321456	354133		321436	456123	536231	3			632321	256362
		326326	2563		362*32	5123*3	3				553123	353223
		*14141			3							
		414141										
		14										
13	135231	123123	123645	263562	123456	123456	123654	654123	462564	134653	514631	151436
	*46	456323	142636	354235	141436	456123	514533	214526	213	1213	433141	536424
		232363	535642	421526	252525	526413	664231	523263			414144	242543
		223563	321456	252525	251236	531445	6*5143	525214			23*514	626623
		636144	263542	425252	221414	246234	532642	436623			535653	
		562354	132145	125425	212452	526322	2	522425			354123	
		512344	421	254212	125454	4563*1		5				
		561233		245	2*2363	24						
		652353			623253							
		212514			122535							
		254*21			225252							
		4254			141232							
					524124							
					124424							
					251455							
					25652							
14	131542	123123	123654	263154	132145	123456	123546	236564	462135	135465	451463	154353
	1	123123	142514	215412	623123	456123	651453	121254	4213	132135	52*114	424124
		456545	524213	4	463125	251436	546421	542145		2	514563	154626
		642424	545642		252523	521542	3	5542			521	246256
		412154	54** 63		636262	4125						242124
		54514*	531542		356262							2
		242452			521414							
		45254			242251							
					24*24							

15 135462 123123 123654 265154 136425 123456 123654 213654 462135 135465 514635 415354
 521352 456124 125632 521522 252363 564562 656315 652621 4621 2 352513 124342
 13524 214212 145246 532541 512543 514536 425421 234613 142462
 425362 231546 412422 636356 645251 5442 566641 625421
 363632 421252 41251* 264213 453642 355213
 351421 *65235 14 51526 132*51
 414141 6 45362
 414251
 425116
 125421
 415551
 51*236
 3

16 135246 123456 123212 261546 136425 123456 123654 265215 462513 134652 514365 154153
 13 321235 365425 215425 252353 412536 514632 621322 54621 13213 6213 423625
 636563 415632 211152 626523 264215 515151 542154 21
 663636 653626 125214 361526 453622 125115
 363653 621354 124515 15125 132** 5 412
 636563 621352 512121 145364
 2*3223 546232 542456 22
 624141 154215 5*5214
 236565 462
 236562
 356325
 632563
 652566
 262563
 225145
 523612
 415151
 4** 145
 251452
 515251
 5

R/TS10 guesses 5/14/2003
Adjusted guess/entered guess when differs

Game/Sub	1501	1503	1504	1505	1506	1508	1509	1510	1511	1512	1513	1515
1	611.25	200	600	750	450	600	525	600	575	600	525	525
2	520	650	480	650	300	617.5	650	617.5	650	617.5	650	650
3	900/914.55	461	620	900	300	838.5	900	838.5	900	838.5	900	900
4	423.15	819	400	300	630	451.5	546	451.5	546	451.5	546	546
5	341.25	150	450	500	500	412.5	315	337.5	315	337.5	315	315
6	122.5	450	300	100	100	122.5	105	122.5	105	122.5	105	105
7	227.5	150	300	500	350	192.5	315	227.5	315	227.5	315	315
8	300/299.25	500	400	500	300	420	420	420	420	420	420	420
9	500/926.25	500	500	500	300	500/780	500	500/780	500/780	500	500	500
10	300/140	500	500	300	300	300/35	300/140	300/140	300/140	300	300	300
11	262.5	130	500/650	150	100	262.5	450	262.5	225	262.5	225	225
12	900/914.55	600	700	900	300	721.5	900	838.5	900	838.5	900	900
13	709.8	210	700	390	390	604.5	900/910	604.5	455	604.5	455	455
14	150	150	200	150	500	200	200	232.5	175	200	175	175
15	100/68.75	100	150	100	100	150	150	150	175	150	175	175
16	131.25	133	150	100	100	162.5	162.5	162.5	250	162.5	250	250

Ass.Type	D2	Eq	Eq	Eq	Eq	D1	D1	D1	D1	D1	L2	L2
#right(0.5)	13	5	1	15	7	13	6	15	3	16	16	16
#right(25)	13	6	1	15	7	13	8	15	8	16	16	16

Alt. type		L1				L2		L2				
#right(0.5)		7				11		15				
#right(25)		7				13		15				

R/TS10 look-ups

Game												
1	151234	123123	132142	256263	123456	123556	513121	123654	123146	153514	131354	135421
	561542	456456	564134	654124	123214	454623	364462	143621	515346	536465	621313	54252*
	141635	411123	654654	154143	565123	21*456	13	313551	246314	213*14	546221	1346
	262453	136652	564565	66266*	456456	123		162311	2652*2	151453	3*1351	
	664132	312451	42132*	623	123124			641356	136445	525653	3213	
	312465	241214	465464		232561			23	1	645215		
	245135	125634	213646		121413					4653*1		
	352656	4*5633			253541					325461		
	564242				442235					1		
	*1				623263							
					236362							
					361452							
					214123							
					565512							
					24*412							
					4							

2	512345	124564	132145	253625	123215	153554	513546	123654	123124	131246	213131	135642
	615153	136362	646226	362	456121	435645	231	151435	165235	514536	355466	311315
	561524	563665	245644		552134	664642		616231	346535	42*131	464646	654656
	5*4615	632664	646521		242215	313*13		251436	323241	246515	662122	5*1342
	421515	124512	314611		363563	256415		231*51	625654	562	13*135	26
	421324	121122	134646		536223	2		461543	2626		564621	
	624156	563636	4		515242			64562			313	
	264664	632123			145221							
	515362	123456			424121							
	454256				223612							
	646325				21							
	26*462											
	46262											
3	123456	123456	123146	252314	123456	145365	151364	123654	134625	513465	131356	135642
	231155	564123	314525	6*2523	142536	443563	231*64	131543	2232*1	253146	462135	3*2135
	1*5*35	564125	25421*	636*63	142545	623*12	31	623** 1	556432	5462*1	621313	623153
	26253	63	462		6123	35263		53562	1456	43652	566523	126135
											13*135	251
											556462	
											31	
4	123456	123654	134646	252361	123456	153521	513643	123654	134652	123456	135641	135231
	51*245	541451	312525	412262	123123	525436	326213	154356	246*53	513646	135621	645*15
	145152	362322	246413	652325	421551	546213		213*15	153*2*	526451	356422	62
	424115	323362	46	525241	154232	*13256		463621	213515	21*151	31*135	
	326625	541326		515152	352656	465155		3	135124	5364	642131	
	532465	336636		1*1	263362	615			26213			
	326536	56*32			541252							
	42				533266							
					352635							
					223232							
5	1514*4	123654	136413	253641	123456	153415	153462	123654	512346	514536	131331	135423
	215*45	123665	525461	262652	251422	356253	13	154636	255456	54213*	546621	1*1323
	353253	425631	312	323641	212411	122		4231*1	2*1345	123645	313*13	1452
	263266	452465		241544	512425			654364	532146	153456	564221	
	23213*	6652		2536	143235			5213		213425	311323	
	465461				532625					13	526422	
	324255				326352						13	
	1				365235							
					632626							
					535232							
					232212							
					412151							
					524545							
					12*323							
					533452							

6	51*245	123654	113464	251412	123456	514135	513564	123123	251346	136451	133152	135462
	*25143	412563	246131	*125	212154	635641	213	654153	255133	343562	645135	1*1352
	653352	665622	2		236323	564153		64213*	154565	54123*	546213	
	656436	363562			353265	452133		154356	421346	514532	*12313	
	622635	525263			456532	*43542	42	545364	56314	564213		
	5321*5	214564			314253			513*51		221		
	124352	123656			625562			35214				
	615341				353523							
	32				635263							
					526326							
					353622							
					665523							
					662635							
					652356							
					26235							
7	515251	123654	134625	252361	123456	145365	513642	123654	134625	253134	135254	132532
	*24513	525414	246131	425232	532641	154645	3642	153562	546315	652*13	6213*2	123*13
	526532	524*45		625112	253632	6213*4		13*153	2*2134	256413	135645	52
	626563	63216		53	356214	5642		624621	652532	6425	646652	
	542*23				15*415		3				222232	
	13562				152426						132	
					352635							
					235							
8	15*152	123212	111131	252536	123456	651451	251364	123654	134646	123456	131353	135642
	4524*1	365444	313134	141626	353266	365153	2	154635	521315	135364	156412	31*135
	536262	564561	646521	262565	533322	533646		641521	354623	563113	31*133	2
	656355	236563	466113	625232	323542	64213*		3*1535	1*1235	254622	156462	
	62*154	263*23	1	353535	415524	153634		246213	135462	13*143	12313	
	246353	63*36		262215	154263	456366				62522		
				41513	421421	254124						
					*15111	6531						
					514214							
					4521							
9	512424	123456	134652	253635	123456	514536	515364	123654	123465	123456	131355	135642
	561554	263652	213134	563523	123151	365323	231	153643	251352	151433	462132	3213*5
	2*3553	663143	6	2*3	242635	1233*6		515231	*53121	654623	231564	531526
	532634				323214	251533		3*1153	322123	213*32	231333	2
	62332*				254254	13		641232	245643	125641	222156	
	332346				111254			364555	154623	325135	456222	
	154				451225			321215	21	3	11333*	
					366323			3*1546			*23*23	
					332362			32			132135	
					352632						6423**	
					353262						3321	
					356253							
					636562							
					353514							
					25*123							
					456321							
					452							

10	514245	123123	134642	251514	123456	353651	451364	123654	213465	123456	135315	135212
	421425	456123	454641	141245	214241	524151	213	146356	135521	251346	462131	345621
	45362	654563	342461	115121	514326	23643		414621	234562	21*212	1*1212	352123
	632635	211214	3	121555	235362	153246		3*1546	45624*	365425	325264	214565
	2*1234	145636		421424	635623			354621	252645		2133	521311
	564562	532363		25151	125325			3	352			
	65515	23			631425							
					421515							
					241515							
					145154							
					241542							
					352626							
					351524							
					154212							
					454563							
					211544							
					513556							
					263623							
					526363							
					535261							
					421542							
					254253							
					632353							
					526356							
					214252							
					515151							
					524242							
					155113							
					51							
11	154242	123123	134625	253651	123456	145536	513642	123654	134622	123654	133155	135213
	5415*3	456254	46	412551	352614	353352	3	145356	551353	512313	462213	525135
	235335	521366		541254	142535	13*514		4213*1	154621	464316	**1355	21346*
	626653	321451		355512	263121	32		543521	3*2426	2513*1	46213	135231
	213*12	223236		125*24	525361			364	242653	324561		522
	3456	256125		153565	452242				125413	36525		
		1		235251	153625							
				514215	35266*							
					412536							
					352635							
					263523							
					362							
12	514236	142563	134625	25361*	142536	145361	513564	123654	513246	134652	135642	135642
	41*352	632541		2536	142536	425361	2*531*	145356	52132*	*46312	13*135	31
	*23145				251333	5336*3	312564	356312	123654	5	462231	
	625525				214563	212	*	321*15	535542		1	
	3				4			364146	3			
								132				

13	514224	123654	134624	253614	123456	154365	513642	123654	132456	136452	135315	135246
	5*3562	541412	646423	125352	356214	2***15	*31	145346	515352	513432	642223	*13546
	626653	365212	164242	154524	241523	435231		215351	*13462	315341	1*1135	22
	22*455	362141	46	254	563235	*54153		341546	451352	213*56	46213	
	352	414254			236256	65		2*1543		63		
		555121			315243			645462				
		412541			626533			13				
					235562							
					656232							
					662362							
					451153							
					263535							
					265263							
					526151							
					524152							
					152415							
					521215							
					542215							
					14215*							
					413652							
					244511							
					2154							

14	152424	123654	134624	251542	123456	154365	513646	123654	134625	134652	133131	135252
	54*536	563211	646213	154524	362514	356465	641314	154346	135531	515343	135462	13*135
	256221	234561		54*241	241524	2132*4	63213	213** 1	2*1346	64521*	13*131	252
	*65	233653		51	362635	631356		514326	524262	132456	356442	
		112365			352631	425532		4213		132213	13	
		445632			421515	461225						
		132124			242421	635312						
		215423			115125	564						
		656214			362626							
		1442			352635							
					352635							
					352536							
					235143							
					532615							
					241542							
					421551							
					152542							
					422635							
					152542							
					151214							
					521514							
					226351							
					425132							
					635152							
					421525							
					142155							
					421362							
					535261							
					524152							
					415242							
					115532							
					635263							
					526352							
					6							
15	154251	123654	111346	251425	152436	514365	513564	123564	512345	132465	132135	135462
	245*43	456123	524613	15*1	*15243	365246	125642	153416	631513	513545	64231*	13*135
	536262	636326	1		626532	321451	1*	536564	2*1365	36213*	135554	2
	5621*1	135142			623514	642*31		132*15	424621	465136	622313	
	524245	536365			25	546265		436524	53152	25	1	
	356265	1425				455221		6213				
	625356					456423						
	356					65						
16	512415	123654	131346	251436	152436	531654	513642	123654	132465	136452	133531	135521
	2*5352	535662	246131	535625	14251	16*22*	513624	154636	513513	513646	564621	3*4563
	656256	143524	521444	621512		135641	36*4	514621	1352*1	521641	3*1356	513564
	256421			45421		6252		3*1356	346265	5321*1	446656	213*13
								4213	135662	346255	213	513562
									*54632	364412		1
									123213			
									56213			

R/TS11 guesses 5/21/2003.
Adjusted guess/entered guess when differs

Game/Sub	1601	1603	1605	1606	1607	1610	1612	1614	1615	1616
1	600	600	525	525	525	525	600	600	750	600
2	617.5	618	650	650	650	900	520	520	750	585
3	838.5	838	900	900	900	900	780	780	780	838.5
4	451.5	451	546	546	546	546	350	350	525	451.5
5	337.5	337	315	315	315	315	450	450	500	337.5
6	122.5	123	105	105	105	105	350	400	500/525	122.5
7	227.5	228	315	315	315	315	210	210	280	227.5
8	420	420	420	420	420	420	300	350	350	420
9	500	500	500	500	500	400	500/600	500	500	500
10	300	300	300	300	300	300/140	350	340	500	300
11	262.5	263	225	225	225	225	500/750	500	500	262.5
12	838.5	839	900	900	900	600	780	800	900	838.5
13	604.5	605	455	455	455	455	780	780	900	604.5
14	200	200	175	175	175	175	200	200	225	200
15	150	150	175	175	175	175	150	150	200	150
16	162.5	162	250	250	250	375	150	150	200	162.5

Ass.Type	D1	D1	L2	L2	L2	L2	L1	L1	L1	D1
#right(0.5)	16	16	16	16	16	12	15	13	4	15
#right(25)	16	16	16	16	16	12	15	15	5	15

Alt. type
#right(0.5)
#right(25)

R/TS11 look-ups
Game

1	254514	155145	135462	123456	135462	135213	125346	46231	461325	153153
	36231	151436	*13513	131224	1313	*52	213*13		213646	564642
		536546	4652	652355			64		464626	146232
		135264		2						215354
		531452								626
		312								
2	514653	155145	135643	131325	135461	135326	134646	46213	462135	154356
	6213	335636	125535	64523	354621	4*3122	524613		462136	356154
		541516	131564		3	51352*			462362	152122
		252213	656226			3			3	66
		645145	2132*3							
		323533	156623							
		536536	1							
		451462								
3	514536	515145	312314	135642	113546	13523	526421	46231	462136	154363
	23	236454	631562	3*1354	213546		3		5132	562162
		664522	316562	613	213					3623*2
		312511	5223							154621
		514535								362
		642*15								
		155463								
		2								

4	514653	515145	132645	132564	135462	135213	46213	462311	462135	154315
	65213	336541	3213	231	13*134	64			246465	356262
		562134			65462				664135	622155
		*51146							666213	356462
		3222								415425
										46532
5	514536	515145	131546	135642	135462	135236	246454	462314	464624	155435
	213	153365	513232	31	13	41	6213	624623	613213	6213
		4213*5	1					1	656462	
		152514							321** 3	
		653323								
		1								
6	514536	514534	413135	132546	135462	135214	24613	46231	462132	154353
	12321	6231*5	131331	2	13	63				564213
		145364	313152							
		465212	1*2461							
		*15145	3							
		362212								
		512535								
		53542								
7	514536	515115	135646	132546	135462	135315	46213	46231	624642	153435
	213	145536	2132	521352	13	21364			136462	61231
		2*1514	46						13	
		536446								
		5652								
8	514632	514536	135466	132564	134546	135213	46213	46231	462421	154635
	13	353515	625621	2	213	64*135			3*1324	154213
		346231	3*1352			2			462	
		321515								
		346221								
		515325								
		155313								
		222513								
		*51533								
		132535								
		2								
9	515453	511415	135135	132546	135546	135213	462131	46231	462132	154356
	6231	535336	4623*1	231463	21313	13*13	3		162321	213134
		435263	31352	154631					24631	153565
		231231		321456						212153
		541515								523
		323*51								
		463134								
		6								

10	514536 213	514536 513413 522132 1*4515 3462	133146 525212 5521	135462 13	135462 13*13	135213 5213*4	46213	46231	642132 135642 33642	155143 563521 313
11	514361 23	515331 464221 314656 53621* 151453 25352	131315 254651 352*21 356413 52	132521 346	131355 46213	135214 36*135 21352	46213	46231	465132 621364 3	154356 354213
12	541436 213	511534 536423 *51454 62	131312 564623 *13522 52364	135135 6423*3 13	135462 13	135135 236514 *13	46213	46231	462136 264646 23	154153 563523
13	514154 536213	511453 644231	132546 556523 1	132152 462*31 213	135464 213	135213 64	46213	46231	462312 3	154154 356421 3
14	514362 23	514533 536421 *51453 6256	135642 13*135 2	135462 13	135462 13	135214 63	46213	46231	462136 464646 42 154621 3	154353 564151 543564
15	514536 132	514536 465642 146315 532	135465 252131 31*131 313521	135462 31	135462 121354 6213*2	135263 4*52	46213	462133	462132 6462	154153 556415 46213
16	514536 21	511531 514664 522123 *21515 143563 2642	131313 213156 421*13 564662	135462 31	135135 461354 6213	136524	46213	46213	462135 464626	154153 564156 213

R/TS12 guesses 5/23/2003.
Adjusted guess/entered guess when differs

Game/Sub	1701	1709	1711	1715	1716
1	600	600	600	600	600
2	520	520	520	520	520
3	780	780	780	780	780
4	350	350	300/245	350	350
5	450	450	450	450	450
6	350	350	350	350	350
7	210	210	210	210	210
8	350	350	500/700	350	350
9	500	500	500/1000	500	500/900
10	350	350	500/700	350	350
11	500/750	500	500/750	500	500/750
12	780	780	780	780	780
13	780	780	780	780	780
14	200	200	200	200	200
15	150	150	150	150	150
16	150	150	150	150	150

Ass.Type	L1	L1	L1	L1	L1
#right(0.5)	16	16	13	16	16
#right(25)	16	16	13	16	16

Alt. type
#right(0.5)
#right(25)

R/TS12 loclookups
Game

1	13462	46213	642*	462131 324646 513264 62*2	146462 134646 23
2	134621 3	46231	642*	462462 13*	462462 13
3	134623 *1	64231	642*	462312 *	462134 646223
4	13462	46213	6421*	462	462136 421
5	134652	464623 1	64213*	46213*	462314 646213

R/TS13 guesses 5/28/2003.
Adjusted guess/entered guess when differs

Game/Su	1801	1805	1807	1809	1811	1814	1815	1816
1	525	600	600	600	525	600	787	525
2	650	520	520	520	650	550	650	650
3	900	780	780	780	900	780	785	900
4	546	350	350	350	546	350	546	546
5	315	450	450	450	315	450	315	315
6	105	350	350	350	105	350	105	105
7	315	210	210	210	315	210	315	315
8	420	400	350	350	420	400	420	420
9	500	500	500/900	500	500	500	500	500
10	300	350	350	350	300	500	300	300
11	225	500	500/750	500	225	500	225	225
12	900	800	780	780	900	800	900/1000	900
13	455	800	780	780	455	800	455	455
14	175	200	200	200	175	200	175	175
15	175	150	150	100	175	200	175	175
16	375	150	150	300	250	150	375	250

L2	L1	L1	L1	L2	L1	L2	L2
15	13	16	14	16	10	13	16
15	15	16	14	16	12	13	16

R/TS13 look-ups
Game

1	135246 23	424646 4213	462513	246423 1	134446 5213*4 6	46213	123465 2	132564 131554 2523
2	135613 23	465231 246521 3	462132 25	64231	134653 125642 313562 52	462135 154626 231	135462	135646 1323*2 5231
3	135621 3523	524646 213	46231	642642 31	136452 3	462213 236462 152563 14	135462 13	133156 423*45 6231
4	135623	246213	46213	64231	134461 355221 3	462642 231	135462	135462 13*513 564231
5	135423 1	46213	46213	64231	134465 22331	464231	135462	135462 31*131 355462

6	13462	46231	642*	462462 13*513 564134 6	46213	6	135421	464213	46213	64231	134654 213	135426 134622 131364	135462 *1	133154 6213*4 621354 21
7	13462	46213	6421*	462*	462246 213	7	13521	462462 13	4622	64231	134652 56213	135426 214264 6213	135462 13	135642 31*135 64231
8	134621 3	46231	642*	462*	46213* 46213	8	135623	46213	462*13	64231	134652 13	462131 3	135462	135642 31*551 35642
9	134621 3*3	46231	64242* 31*	46213*	462134 621363 134623 13	9	132562 3	46231	1462*3 21	642313	134652 3	135135 135464 246213 465264 53*321 214261 3	135421 324623	135645 233*13 523
10	134621	46231	642*	464646 231*	462134 6213	10	132542 11	46213	46231	64231	134652 13	153564 131645 213643 643624 231	135462 13	135642 13*1
11	134623 1	46231	642*	462462 132464 632462 *	462134 62313	11	132554 21	4623	4623	642642 3	134625 462136 45213	132146 21323	135462	131356 42*413 6524
12	134623	46231	642*	4623*4 646546	464213 *46213	12	135236 4	6423	46223	64231	134656 23	462132 346565 4	135213 546231 46	135642 253*13
13	13462* 31	46231	642642 *	46231*	464621 346213	13	13252	46213	462315	64231	134655 462231	134624 622462 531413 5	135462	135642 31*213 5462
14	134621 3	46213	64521*	462136 462462 1*	462462 13	14	135421	46213	465213	64231	134613 54621	132415 315315 342646 213	135135 4621	135462 13*135 2
15	134621 3	46213	6421*	462134 65*	46213* 462462 13	15	132542 1	46213	46213	64231	134652 1	426462 46213* 5	135214	135462 *13526 4

16	134621	464521	6421*	462134	462462	16	13521	46213	462513	64231	134656	462421	135213	135646
	3			646546	46213						213	3	46	6213*1
				213146										35642
				424624										
				62*										

R/TS14 guesses 5/30/2003.
Adjusted guess/entered guess when differs

Game/Sub	1901	1904	1905	1906	1908	1909	1910	1911	1913	1914	1915	1916
1	525	600	600	630	600	600	600	525	713	400	500	500
2	650	600	631	650	615	617	520	650	618	400	600	650
3	900	790	730	900	835	838.5	780	900	900	600	703.5	600
4	546	550	350	318.5	450	451.5	350	546	424	533	510	728
5	315	450	380	472.5	338	337.5	450	315	375	367	225	220
6	105	100	420	122.5	128	122.5	350	105	251	250	175	250
7	315	210	208	220.5	225	227.5	210	315	175	317	325	307
8	420	500	303	367.5	420	420	350	420	378	450	480	425
9	500	500	500/725	500/975	500	500	500	500	500	400	450	500/550
10	300	300	345	300/122.5	300	300	350	300/140	300/140	350	305	300
11	225	500	500/880	500/562.5	262	262.5	500	225	300	385	200	500
12	900	780	848	900	832	838.5	780	900	900	450	779.55	780
13	455	600	265	709.8	604	604.5	780	455	663	700	709.8	565
14	175	200	444	150	212	200	200	175	100	375	150	275
15	175	325	123	100	165	150	150	175	100	217	207.5	150
16	250	375	234	112.5	175	162.5	150	375	100	235	237.5	100

Ass.Type	L2	L1	L1	L3	D1	D1	L1	L2	D2	D2	D2	L3
#right(0.5)	16	7	4	15	7	16	16	15	5	0	1	3
#right(25)	16	8	6	15	16	16	16	15	6	0	2	4

Alt. type	L3
#right(0.5)	5
#right(25)	7

R/TS14 look-ups

Game												
1	134654	132246	46213*	466423	123456	123456	132456	13546*	153134	133465	132446	13
	613552	21331	465132	154622	151543	514354	642131	521352	624664	246531	651363	
	312		4613	31	564654	614642	3	13	555352	134564	646314	
					65213	13			314264	264152		
									266664	645142		
									6513	525151		
										352461		
										5		
2	135613	134625	461321	465462	123456	153456	46213	315623	153146	135464	461351	135642
	613562	464646	3	213465	154143	41422		311	211563	136525	436215	256236
	321261	213535		464625	564522				41462	134646	13	
	352	461324		646231	31*13					5		
		62										

3	135654 135223 3	146213	461323 *46631 22	462565 462*46 625623 113	123456 154652 3*1232 1	135464 1523	46213	311562 3	511346 412412 356413 63	461325 251463 4654	241635	113565 254136
4	134652 31523* 13562	134652 135213 151356 13213	462213 *4613* 13146	462252 31*465 461324 62552 3	123456 515513 661546 521121 3	143615 36213	46213	315231 *1	153246 115364 262554 1	461325 464613 522524 664625 5	246163 531142 426322	135254 613213 564212 32*5
5	135523 23*135 6214	134621 3	134625 26413* 1346	465252 314646 134623 555223	123456 155435 231	154356 462	46213	315564 223*1	123546 151536 24262	134625 213251 325135 5413	153642 365131	135463 52214
6	135546 2123*1 35421	135213 5	461323 1** 461 3	464613 464626 425462 213	123456 143542 11	154356 421	46213	531564 *21	153641 242156 26352	135246 251364 252313 213642 521	153425 26413* 31	135251 462346 42
7	135452 13*135 462131	146221 3	46213	464655 464652 135222 13*462 462265 462221 3	123456 154632 1325	154353 64213	46213	315623 1	152315 346324 624615 351362 462	134632 513252 422513 4	153615 251361 4	135462 143621 463135 52
8	135462 13*135 462132 13	46231	465213 *13	464625 52132* 462521 346	123456 424115 35213	154356 23	46213	231315 64213	136451 153462 1622	134631 631252 5	241536 132153 121531 252*13 255*46 5355	134664 251313 254146
9	135462 2313*1 355642 213	224623 11353 31	462313	466223 131335 462355 2313*4 623135 322313	123545 615545 153653 132	154356 231	46213	231562 531531 523	251364 141512 563523 233264 152325 3	134625 213 213*31	415353 523215 213*31	446465 462323 134623 233134 646223 225465
10	135462 13*135 4621	462462 31554 13642	46231*	134622 642465 552231 465252 42131* 146624 625132 13	123456 154352 513212 3456	153462 1	46213	531523 6	153534 261534 635362 1552	136425 213462 5	246513 462651 325413 *42	464621 323146 254525 134625 254126 3

11	135425	466422	462231	462644	123456	153462	46213*	315642	123546	134625	421536	146466
	131354	463113	*132	465462	514535	1	13	36	135242	13625	235251	232564
	213*13	5		225264	153522				631565		363556	2
	546213			133*46	135				315342		5313	
				255246					622			
				246225								
				2								
12	135462	131324	465231	462462	123456	153462	46213	31523	123463	134625	153254	146232
	3*1356	623513	*31	462531	254152	3			145221	1356*2	*13	51364
	4223	513*46		462562	361523				365436	54		
				562331					2			
				*3*33								
13	135462	462513	465221	462135	123456	153462	46213	315231	153242	134625	421536	134625
	132*13	523	3	462213	154153	3			625236	24613	241523	263141
	546213			*46225	535465				4		1	353462
				521346	3231							5135
14	135462	46213	462136	464625	123456	153462	46213	315231	153624	134646	415362	462135
	13*135		413*46	135264	145436			*52	325211	52246	154562	214644
	46213		2	464624	363635				*22		1	641325
				462422	465213							1315
				462554								
				64213*								
				256464								
				54213								
15	135462	466213	134621	464654	154123	153462	46213	315264	153426	132522	153623	462462
	13*135	5135	346135	664462	456351				622212	146314	1413*6	13252
	461213		213646	245135	546212				5	26		
			1*1364	246241	3							
				31*13								
16	135546	134621	462133	464625	123456	154362	46213	31521	153426	123143	153621	146251
	645213	51352	613*13	134625	153635	1			264262	625	243625	355346
	*13546		642	514612	153546				153153			241354
	2213			21	2123				624152			462145
									142			454524
												554664
												2521

R/TS15 guesses 6/10/2003.
Adjusted guess/entered guess when differs

Game/Sub	2001	2002	2003	2004	2005	2006	2008	2009	2010	2011	2013	2015
1	600	750	750	600	750	600	525	525	400	611	600	600
2	617.5	650	650	520	650	520	650	750	445	618	520	600
3	838.5	900	900	780	390	780	900	900	645	790	780	780
4	451.5	300	900	350	300	350	546	546	420	423	350	350
5	315	500	500	450	500	450	315	315	325	303	450	450
6	105	100	100	350	357	350	105	105	225	125	350	350
7	227.5	350	350	210	350	210	315	315	225	236	420	147
8	420	500	500	350	500	350	420	420	300	488	350	350
9	500/780	500	500	500	450	500	500	500	500/900	500/800	500	500
10	300/140	300	300	350	500	350	300/140	300	300/196	300/140	350	350
11	262.5	150	150	500	150	500	225	225	500/675	175	500	500
12	838.5	900	900	780	900	780	900	900	838.5	900	780	780
13	604.5	390	390	780	390	780	455	455	780	605	780	780
14	232.5	150	150	200	150	200	175	175	187.5	100	200	400
15	182.5	100	100	600	100	150	175	175	137.5	100	300	300
16	162.5	100	100	900	100	150	250	250	135.5	131	150	300

Ass.Type	D1	Eq	Eq	L1	Eq	L1	L2	L2	D1	D2	L1	L3
#right(0.5)	12	16	15	14	12	16	16	15	3	8	14	1
#right(25)	14	16	15	14	12	16	16	15	7	10	14	3

Alt. type
#right(0.5)
#right(25)

R/TS15 look-ups
Game

1	123465	142536	123456	123124	123462	462314	111313	123135	124326	123456	123146	132245
	515536	125365	456123	646462	652463	62	131313	546231	46	546132	2446*3	646513
	154462	253616	146254	132			5423			513154	164	512346
	4623	361454	215362							652124		2462
		613451	356256							613525		
		213452	242123							456121		
		63	635265							134625		
			3*3							4654*4		
										121123		
										146651		
										235364		

2	134655	143625	123456	46213	123654	465213	131313	123556	124326	123456	132456	132462
	143222	361425	356235		123665	246	566622	465321	4	241236	464231	456131
	23*364	142523	636253		3162		333			231232	456545	355135
	516	625656	253154							112312	612346	13561
		3	63*316							361113	246246	
			4							152364	2	
										265456		
										645142		
										125211		
										246451		
										225451		
										113651		
										515156		
										2*5123		
										6		
3	134625	143625	123654	462135	123654	46231*	134631	135623	123463	212345	123456	132456
	151523	251233	32625		563212	462	252135		1	614253	465213	135646
	1				**5452		62223			611523	*46312	2*3
					321365					444251		
					21					236523		
										23*312		
										111236		
										543		
4	135466	142536	123654	246213	123654	46213*	132456	135624	124326	123456	146522	132456
	525262	362521	626535		214663	46231	132562		3	123456	213	462462
	1	242125	632352		513245		3			123123		131354
		421542	412363		12					456122		62*1
		1	512642							426413		
			156246							125644		
			531321							444515		
			654356							563522		
			265135									
			264251									
			235131									
			2134									
5	135311	143625	123654	46213	123212	46213	135252	113546	124312	123246	145564	132456
	234524	312523	356252		345621		23	231	4666	313545	564562	132135
	65231	663255	362526		452*41					652664	*52	4462
		3	325		2563*1					5121		
					2342							
6	123513	143625	123456	246221	123654	462463	132521	131546	124326	123212	146546	132465
	46521	362412	235241	3	326363	146213	31	521	431	356456	546524	114132
		324125	514		5212	*462				212321	62213	46462
		235321								232123		
		4								426231		
										425131		
										356423		
										453546		
										354352		

7	135134	143625	123456	462131	123654	462446	131265	135642	124326	123123	462462	132465
	62	236565	265323		13613*	231462	412365	13	4124*1	456246	46213	123135
		22	652325		12*2	*46223	421213		3	221335		46221
			625				52			645154		
										52		
8	135354	143625	123654	46213	123654	462461	132456	135642	124326	234665	13462*	134625
	6213	254163	623562		212463	3462*4	552132	13		255654	132466	413513
		563236	35362		635325	62	3			215141	*462	135462
		2			4132					2		
9	135356	143625	123654	246246	123654	462134	135132	135642	124326	123462	464622	4623
	423251	143625	623235	131313	123654	46231*	332333	313	4*1322	352124	461346	
	331554	42363	626523	*12*1	413612	4623	322133		31	126232	422312	
	62321		5*3		3**4		311315			312445	123544	
							5323			565325	623231	
										324212	236545	
										426252	631313	
										222511	14623	
										551242		
										5553		
10	135135	142536	123456	462213	123654	462314	132456	135465	122243	246312	462314	46213
	4621	361452	321456		124365	621	132135	2131	26213	511465	62213	
		251421	235262		33		213531			161531		
		5421	354151				523			465222		
			623514							134652		
			5215							151352		
11	135346	255236	365214	462134	123654	462314	135133	133154	124326	123212	462462	4623
	4352	142142	635262	664636	123546	623	152363	652132	23	324621	132	
			356326	426421	335152					235146		
			514541	*2313	412122					515143		
			252		*14252					536435		
										412542		
										413123		
										524615		
										456343		
12	135146	142536	123654	46213	123214	462312	135353	135642	123245	264132	136454	4623
	22	654123	654123		563214	4*4623	26	3	66231	465452	65231	
			216551		563213					554621		
			4							232312		
										25		
13	135436	142536	123456	462462	123654	46231*	132153	135462	123246	246513	134646	4623
	546213	362142	236525	13	123654	462	162521	13	621323	242621	231462	
		442	415254		124125		326			354645	462	
			25134		*214					66542*		
										231		

14	135143	142536	625354	46213*	123654	46213*	132456	135462	124326	213542	465213	462
	554621	144215	121542	24	623542	46213	131256	1	4213	464626		
	3	42	1542*1		1254		223			131546		
			23456							521*1		
15	135464	142536	123654	46213*	112365	46213*	132531	135462	124336	246461	131346	462
	35213	14252	624152	3	412365	462	213123	1	213	313546	546213	
			14542		43		131236			551541	13	
							52			5421		
16	135156	142536	123654	462135	123654	462134	135622	135646	124326	124624	146564	462*3
	45213	325142	626416	13	61425	62	3	21	462132	615541	621364	
			362524						554621	542426	264213	
			145421						2436	424152		
			5421*1							125456		
			23654							*2		

This appendix summarizes the results of comparing the likelihoods of our estimated types with the likelihoods of the 88 pseudotypes as discussed in Section II.D of the paper and explains the details of our specification test and analysis of clusters. The likelihoods from the estimation with pseudotypes described in the text are presented at the end of this section as an 88×88 matrix on a single page, so that it can be navigated freely; please zoom the page to 800% for legibility. In the matrix subjects are associated with rows, ordered by type and likelihood as in Table 7 in the paper but with types ordered alphabetically; pseudotypes are associated with columns; and the entries are likelihoods.

```

1 101
2 102 20
3 103 5 8 10 11 12 14 38 41 61 72 76 80
4 104
5 105 3 4 8 9 10 11 14 18 28 30 37 38 39 41 44 58 61 69 72 74 76 80 82 85
6 106 4 29
7 108
8 109 3 5 9 10 11 13 14 16 18 24 25 37 41 43 44 52 58 63 69 71 72 74 76 80 81 84 85
9 110 3 5 8 10 11 14 15 22 37 41 58 72 74 76 80 85
10 112 47
11 113 1 2 3 5 8 9 10 14 15 18 20 21 25 32 33 37 38 41 44 49 58 61 63 69 70 72 74 75 76 85
12 115 44 45 50 51 59 62 73 79 82
13 118
14 201 3 5 9 10 11 17 20 25 28 30 33 37 38 43 49 58 61 69 74 76 80 82 85
15 202 23 43 54 67
16 203 13
17 204 18 34 45 57 59 84 86 88
18 205 40 57 86
19 206
20 207
21 208 13
22 209
23 210 35
24 211
25 212 2 3 5 8 11 14 21 23 24 30 32 33 37 38 44 51 53 56 58 60 65 70 74 76 82 85 86
26 213 2 9 11 14 21 22 28 30 32 33 37 38 45 49 53 61 62 64 65 68 69 70 74 76 80 85 87
27 214
28 215 43 47
29 216

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0

```

30 217 1 4 21 29 65
31 218 7 22
32 219 1 4 6 10 13 15 16 21 29 49 63 65 68 74 80
33 220
34 301 79
35 302 15 23
36 303
37 304 3 5 8 9 11 12 14 38 41 46 58 61 68 69 74 76 80
38 305 4 6 13 65
39 306 7 19 22 27 31 71
40 307
41 308
42 309
43 310
44 312 88
45 313 17 59
46 314
47 315
48 316
49 317 1 2 4 13 20 29 33 68
50 318
51 401 12 21 25 28 45 50 58 65 72 77 82 85
52 402 63
53 403
54 404 43
55 405
56 406 22 24 47 86
57 407 22 31 86
58 408 5 11 14 24 25 28 33 34 37 38 41 50 56 73 82 85
59 409 45 50 68
60 410 10 44 50 59 68 80
61 411 13 29
62 412 19
63 413
64 414 19 48 74
65 415 4
66 416 45 72
67 417 15 23 54
68 418
69 420 5 14 17 19 28 29 30 34 36 37 43 61 65 71 73 78 79 84 88
70 421 10 11 14 30 38 50 60 62 81 85
71 422 19
72 501 5 9 41 59 66 76 82
73 502 34 79
74 503 2 6 11 14 28 32 38 40 43 48 61 65
75 504 29
76 505 3 5 14 37 41
77 506
78 507
79 508 34
80 509 4 22 37 50 68 82
81 510 13 41
82 512 79
83 513
84 514 29 34 39 69 71 73 79
85 515 2 3 4 5 9 10 11 13 14 20 28 29 37 38 41 43 44 49 50 51 58 60 68 72 74 76 81
86 516 31 57
87 517 19
88 518 67

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There are 25 subsets of pseudotypes and subjects who satisfy part (i) of the definition of a cluster. We divide these into two groups, with subjects identified by sequence number and ID:

1. Groups whose guesses are not sufficiently similar to warrant further investigation

66 72 (416 501)
3 5 8 11 (103 105 109 113)
3 5 11 14 (103 105 113 201)
3 5 14 76(103 105 201 505)
5 8 9 11 37(105 109 110 113 304)
5 9 11 14 37 (105 110 113 201 304)
5 9 11 14 85 (105 110 113 201 515)
5 11 14 37 58 (105 113 201 304 408)
5 11 14 58 85 (105 113 201 408 515)
5 14 37 69 (105 201 304 420)
5 14 37 76 (105 201 304 505)
11 14 74 (113 201 503)
11 25 58 (113 212 408)
11 70 (113 421)
12 51 (115 401)
25 51 (212 401)
32 74 (219 503)
37 80 (304 509)
51 85 (401 515)
69 84 (420 514)

2. Five (non-overlapping) groups in which subjects' guesses appear close enough to warrant further investigation (identified by letters as in Section II.D and Table 7)

A. 15 67 (202 417); 43 (310) is included as a potential member of cluster A because its pseudotype fails to improve upon 67's (417's) estimated type by only 0.0007 (although 43 (310) also violates part (i) because both 15's (202's) and 67's (417's) pseudotypes fall well short of improving upon it's estimated type), and because 43's (310's) pattern of guesses is very similar to 15's (202's) and 67's (417's)
B. 23 35 (210 302)
C. 57 86 (407 516)
D. 34 79 (301 508)
E. 45 59 (204 313); 17 (409) is included as a potential member of cluster E because its pseudotype fails to improve upon 59's (313's) by only 0.59, and its pattern of guesses is similar to 45's (204's) and 59's (313's)

We now discuss the similarities among subjects' guesses in each of these 5 groups, diagnosing misspecification by omitted decision rules and identifying the omitted rules when possible. The subjects' guesses are collected from Appendix E and presented below for convenience. The subjects that we judge to be part of a cluster are identified in Table 7 by superscripts on their type identifiers corresponding to their cluster labels.

A. Subjects 202, 310, and 417, all estimated to be *Equilibrium*: All made *Equilibrium* guesses in our 8 games without mixed targets, and 310 also did so in 3 of our games with mixed targets; there was no apparent pattern with respect to other aspects of the structures (Figure 4 in the paper). 202's and 417's deviations are always in the same direction, but to different guesses; all but one of 310's deviations in games without mixed targets was in the same direction, also to different guesses. This pattern of deviations is intriguing because the standard methods for

identifying equilibrium guesses all work equally well in games with and without mixed targets.² We judge 202's and 417's guesses similar enough to meet the definition of a cluster, but we are unable to tell how they were determined; we suspect that they were using "homemade" rules that happen to mimic *Equilibrium* in games without mixed targets. However, we exclude 310 and so provisionally accept his identification as *Equilibrium*, which fits his guesses significantly better than 202's and 417's pseudotypes do, despite the similarities. This cluster illustrates the potential empirical importance of the subtlety of the arguments needed to identify equilibrium decisions.

B. Subjects 210 and 302, both estimated to be *L3* (with *Equilibrium* a fairly close second for both): Both deviate from *L3* guesses in 7 games, 6 of which have mixed targets; and 302 also has minor deviations in games 11 (also with mixed targets) and 14 (Figure 3 in the paper). There is no apparent pattern with respect to other aspects of the structures. Of the 7 common deviations, 6 are in the same direction, all to similar guesses. Both subjects make exactly the equilibrium guess in game 6, our only game without mixed targets in which *Equilibrium* is separated from *L3*. We are unable to tell how those subjects' guesses were determined, but we judge them similar enough to meet the definition of a cluster. Their decision rules appear to be hybrids of *L3* and *Equilibrium*, perhaps switching from one to the other according to some cue in the structure that we cannot discern.

C. Subjects 407, estimated to be *L2*; and 516, estimated to be *L1*: Both make *L1* guesses in most (5 and 7, respectively) of the first 9 games played and *L2* guesses in most (6 and 4) of the last 7. (*L1* and *L2* guesses are separated in all but game 9, in which both make the *L1* and *L2* guess.) There is no apparent pattern in their deviations from *L1* or *L2* with respect to the structures (Figures 1-2 in the paper). We judge their guesses to be similar enough to meet the definition of a cluster, but we do not believe these subjects followed an omitted hybrid type. The

²Only one of our 29 *Equilibrium* R/TS subjects came at all close to these subjects' patterns (1203 with 11 exact guesses, 4 of them with mixed targets, Appendix E), and the rest made as many exact guesses with as without mixed targets. In our debriefing questionnaire, subject 417 explicitly distinguishes games with mixed targets, in which, he says, "I usually assumed my partner chose from fairly near the center of his range, assuming it would deviate from this appropriately based on the difference of our multipliers (i.e., that the average of our guesses would be near the median of the overlapping part of our ranges)." We take this to mean that he adjusted his beliefs upward (downward) when his own target was lower (higher), but only half of 417's deviant guesses are consistent with this. For games without mixed targets, 417 gives a clear definition of equilibrium: "I made a greedy choice, always assuming my partner also made a greedy choice...."; there is no clue why he did not also follow this rule with mixed targets. Subject 202's responses are too vague to be helpful. Subject 310 says (without distinguishing games with mixed targets), "Used what would be best for me and what was best for them" and then gives the formula for the equilibrium adjusted guess *without* mixed targets.

time pattern of deviations and the fact that most of their later guesses followed a more sophisticated rule suggest introspective learning during play.³

D. Subjects 301 and 508, both estimated to be *LI*: These subject's pseudotypes are the only ones with higher likelihood than each other's estimated type. They have five common deviations from *LI*, always downward, though almost always to different guesses; and each subject also has one lone (upward) deviation (Figure 1 in the paper).⁴ The common deviations have no apparent pattern with respect to timing or structure. Both lone deviations seem due to forgetting to multiply by own target and some common deviations also seem due to forgetting or interchanging targets or limits. We judge these subjects' guesses to be similar enough to meet the definition of a cluster, but we are not convinced that they followed an omitted type. There is a chance that they are just sloppy *LI* subjects whose cognitive errors for some reason happened to occur mostly in the same games.

E. Subjects 204 and 313, both estimated to be *DI*, and 409, estimated to be *LI*: These subjects all made similar guesses, including 645s inexplicable by our types in the symmetric games 3 and 12 and, for 204 and 409, in the asymmetric game 13. They are among the minority of subjects who explained their guesses clearly in their questionnaires: All stated homemade rules that depart from standard decision theory (and so from our types) in different ways, but which, properly reinterpreted, explain most of their guesses.⁵ We treat them as a cluster because their guesses are similar, but they were plainly not following *LI*, *DI*, or any single omitted type.

³Both subjects' questionnaires give fairly clear statements of *L2*, but no indication that they did not always follow it. It is interesting to compare their guesses with subject 108's, which mostly follow *L2*'s guesses but deviate to *LI*'s in games 2, 10, and 16. 108's *LI* guesses are mostly late, and *L2* fits his guesses significantly better than any pseudotype. 108's questionnaire also gives a clear statement of *L2*, but a vague discussion of the switches to *LI*. A few subjects give weaker evidence of introspective learning, also in the form of early-late *LI* to *L2* switches: 209 makes *LI* guesses in games 1 and 3 and *L2* guesses in all other games but 10; 218 makes *LI* guesses in games 1-3 and *L2* guesses in all other games but 4 and 10; and subjects 301, 504, 508, and 516 have similar, noisier patterns. It is particularly telling that 209 and 218 make *LI* and then *L2* guesses early and late in the symmetric games 3 and 12.

⁴Curiously, 3 of subject 301's 6 deviations from *LI* guesses are to equilibrium guesses (twice when they are separated from all other types' guesses), though there is no hint of *Equilibrium* in his questionnaire.

⁵Subject 204 says that he first found the person whose "spread" (defined as own target times the difference between the partner's limits) was smaller. If his spread was smaller, he guessed the average of the range between his target times the partner's lower and upper limits; and if the partner's spread was smaller, he guessed the average of the analogous partner's range, thus without taking his own target into account, which makes no sense decision-theoretically. In fact he adjusted the ranges according to the limits; with this adjustment the stated rule explains his guesses in 11/16 games. Subject 313 says that he guessed $[\max\{a_i p_j, a_j p_i\} + \min\{b_i p_j, b_j p_i\}]/2$ ("I multiplied my upper and lower limits w/ partner's target, then multiplied his upper and lower limits w/ my target. Then I chose the largest of the lowers and smallest of the uppers to find my new more refined range. Then I guessed the average of this range."). In fact he separately adjusted each term in the above formula to his own limits before averaging them

These subjects illustrate what seems to be a widespread tendency to invent rules by which to process the data of our games into decisions. We find it unremarkable that their rules deviate from standard decision theory. What is remarkable is the high frequency with which our other subjects whose rules can be distinguished from random (mostly *L1*, *L2*, or *Equilibrium*) *do* conform to standard decision theory, even though most of them are best responses to non-equilibrium beliefs.

(see especially his game 14 guess), which makes no sense decision-theoretically. With adjustment, the stated rule explains his guesses in 14/16 games. Subject 409 says that he guessed $[\max\{a_i, a_j p_i\} + \min\{b_i, b_j p_i\}]/2$ ("Basically, I took his/her lower limit and multiplied it by my target. If the resulting number was between my upper and lower limits, I kept that in mind. Otherwise I picked my lower limit. Then I took his/her upper limit and multiplied it by my target. Again, if the resulting number was within my range, I took it. Otherwise I picked the upper limit. Then I found the average of the two numbers.") The stated rule explains his guesses in 13/16 games.

Game Structures, Types' Guesses, and Guesses of Cluster Candidates A, B, and C, games in order played

Game	<i>ai</i>	<i>bi</i>	<i>pi</i>	<i>aj</i>	<i>bj</i>	<i>pj</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>D1</i>	<i>D2</i>	<i>E</i>	<i>S</i>	202	417	(310)	210	302	407	516
1	100	900	1.5	300	500	0.7	600	525	630	600	611.25	750	630	675	600	500	630	630	600	600
2	300	900	1.3	300	500	1.5	520	650	650	617.5	650	650	650	650	650	650	650	650	520	520
3	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900	900	900	900	900	900	700	780
4	300	900	0.7	100	900	1.3	350	546	318.5	451.5	423.15	300	420	500	333.87	630	380	430	609	565
5	100	500	1.5	100	500	0.7	450	315	472.5	337.5	341.25	500	375	425	450	500	450	479	450	450
6	100	500	0.7	100	900	0.5	350	105	122.5	122.5	122.5	100	122	100	100	100	100	100	360	350
7	100	500	0.7	100	500	1.5	210	315	220.5	227.5	227.5	350	262	215	173.91	200	350	340	210	210
8	300	500	0.7	100	900	1.5	350	420	367.5	420	420	500	420	370	315	500/630	420	400	420	500
9	300	500	1.5	300	900	1.3	500	500	500	500	500	500	500	500	500	500	500	500/999	500	500
10	300	500	0.7	100	900	0.5	350	300	300	300	300	300	300	300	300	300	300	300	300	490
11	100	500	1.5	100	900	0.5	500	225	375	262.5	262.5	150	300	310	300	500	375	370	225	225
12	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900	900	900	900	900	900/999	900	692
13	100	900	1.3	300	900	0.7	780	455	709.8	604.5	604.5	390	695	600	520	400	550	555	455	455
14	100	900	0.5	300	500	0.7	200	175	150	200	150	150	162	150	150	150	150	160	210	175
15	100	900	0.5	100	500	0.7	150	175	100	150	100	100	132	100	100	100	100	100	175	175
16	100	900	0.5	100	500	1.5	150	250	112.5	162.5	131.25	100	187	240	227	100	187.5	218.75	250	375

Game Structures, Types' Guesses, and Guesses of Cluster Candidates D and E, games in order played

Game	<i>ai</i>	<i>bi</i>	<i>pi</i>	<i>aj</i>	<i>bj</i>	<i>pj</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>D1</i>	<i>D2</i>	<i>E</i>	<i>S</i>	301	508	204	31	409
1	100	900	1.5	300	500	0.7	600	525	630	600	611.25	750	630	600	600	600	60	600
2	300	900	1.3	300	500	1.5	520	650	650	617.5	650	650	650	520	520	500	55	520
3	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900	780	780	645	64	645
4	300	900	0.7	100	900	1.3	350	546	318.5	451.5	423.15	300	420	350	490	645	51	465
5	100	500	1.5	100	500	0.7	450	315	472.5	337.5	341.25	500	375	210	300	225	25	325
6	100	500	0.7	100	900	0.5	350	105	122.5	122.5	122.5	100	122	300	300	175	17	325
7	100	500	0.7	100	500	1.5	210	315	220.5	227.5	227.5	350	262	210	210	175	25	225
8	300	500	0.7	100	900	1.5	350	420	367.5	420	420	500	420	500	350	500/600	47	400
9	300	500	1.5	300	900	1.3	500	500	500	500	500	500	500	500/520	500	500	47	475
10	300	500	0.7	100	900	0.5	350	300	300	300	300	300	300	300	300	300	30	400
11	100	500	1.5	100	900	0.5	500	225	375	262.5	262.5	150	300	150	340	150	20	325
12	300	900	1.3	300	900	1.3	780	900	900	838.5	900	900	900	780	780	645	64	645
13	100	900	1.3	300	900	0.7	780	455	709.8	604.5	604.5	390	695	350	430	645	51	645
14	100	900	0.5	300	500	0.7	200	175	150	200	150	150	162	200	200	300	20	200
15	100	900	0.5	100	500	0.7	150	175	100	150	100	100	132	150	150	175	17	150
16	100	900	0.5	100	500	1.5	150	250	112.5	162.5	131.25	100	187	150	150	175	17	175

Appendix G. Supplementary Tables

Table 5a supplements Figure 5 and Table 5 in Section I.B by giving the numbers of games in which each pair of types is separated, by more than 0.5 and by more than 25.

Table 5a. Numbers of Games in which Types' Guesses are Separated by More than 0, 25

	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>D1</i>	<i>D2</i>	<i>Eq.</i>	<i>Soph.</i>
<i>L1</i>	-	15, 13	15, 12	12, 10	15, 12	15, 15	15, 14
<i>L2</i>	15, 13	-	11, 9	13, 9	10, 8	11, 9	10, 8
<i>L3</i>	15, 12	11, 9	-	13, 12	8, 5	9, 6	9, 8
<i>D1</i>	12, 10	13, 9	13, 12	-	9, 7	14, 13	12, 10
<i>D2</i>	15, 12	10, 8	8, 5	9, 7	-	9, 8	9, 6
<i>Eq.</i>	15, 15	11, 9	9, 6	14, 13	9, 8	-	11, 9
<i>Soph.</i>	15, 14	10, 8	9, 8	12, 10	9, 6	11, 9	-

Table 5b supplements the discussion of subjects' incentives to make their types' guesses at the end of Section I.B. Imagine that a subject was, say *L2*, with *L2*'s beliefs; but was careless and didn't make *L2*'s guesses. Because there are many ways to be careless in our design, imagine that he follows instead the guesses of another of our types. How much would it cost him? Table 5b's rows give each type's expected monetary earnings over all 16 games, as a function of a hypothetical type that determines its partner's guesses. The *L0* column refers to a partner whose guesses are uniform random, as in *L1*'s beliefs. The strength of an *L1* subject's incentives to make *L1*'s guesses can be gauged by using the *L0* column to compare the expected earnings of *L1* guesses with those of guesses that follow other types. Similarly, the *L1* (*L2*) column reflects *L2*'s (*L3*'s) beliefs; the *R1* (*R2*) column refers to a type whose guesses are uniform random over guesses that survive 1 (2) rounds of iterated dominance, reflecting *D1*'s (*D2*'s) beliefs; the *Equilibrium* column reflects *Equilibrium*'s beliefs; and the B+OB column refers to actual B+OB frequencies, reflecting *Sophisticated*'s beliefs as we estimate them.

Table 5b. Strength of Baseline and OB Subjects' Incentives to Make Types' Guesses

	<i>L0</i>	<i>L1</i>	<i>L2</i>	<i>R1</i>	<i>R2</i>	<i>Eq.</i>	B+OB
<i>L1</i>	34.95 (100)	28.41 (55)	36.81 (76)	34.38 (83)	33.61 (78)	25.98 (56)	34.63 (85)
<i>L2</i>	31.20 (89)	51.81 (100)	31.34 (65)	39.30 (94)	38.68 (90)	31.37 (68)	38.73 (96)
<i>L3</i>	32.99 (94)	35.01 (68)	48.14 (100)	38.70 (93)	41.14 (95)	34.00 (74)	39.34 (97)
<i>D1</i>	33.73 (97)	41.13 (79)	37.56 (78)	41.64 (100)	41.11 (95)	29.42 (64)	39.50 (97)
<i>D2</i>	32.86 (94)	41.56 (80)	40.57 (84)	40.79 (98)	43.13 (100)	32.43 (70)	40.07 (99)
<i>Eq.</i>	30.14 (86)	36.67 (71)	36.09 (75)	35.87 (86)	38.30 (89)	46.05 (100)	35.98 (89)
<i>Soph.</i>	33.04 (95)	41.38 (80)	41.24 (86)	40.77 (98)	41.84 (97)	31.67 (69)	40.53 (100)

Note: The entries are in US dollars, expressed as percentages of the column maximum in parentheses.

Table 6a supplements Table 6 in Section II.B, giving compliance rates for types other than *Equilibrium*.

Table 6a. Baseline and OB Subjects' Aggregate Exact Compliance with other Types' Guesses

Game (#rounds)	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>D1</i>	<i>D2</i>	<i>Soph.</i>
All games	25 (0)	21 (0)	14 (0)	13 (0)	14 (0)	14 (0)
1. $\alpha 2 \beta 1$ (4)	18 (0)	12 (0)	0 (0)	0 (0)	0 (0)	0 (0)
2. $\beta 1 \alpha 2$ (3)	18 (0)	19 (0)	16 (0)	18 (0)	16 (0)	0 (0)
3. $\beta 1 \gamma 2$ (3)	27 (0)	16 (0)	10 (0)	27 (0)	10 (0)	0 (0)
4. $\gamma 2 \beta 1$ (2)	19 (1)	44 (0)	44 (0)	44 (0)	44 (0)	44 (0)
5. $\gamma 4 \delta 3$ (2)	69 (0)	69 (0)	69 (0)	69 (0)	69 (0)	69 (0)
6. $\delta 3 \gamma 4$ (3)	26 (0)	26 (0)	26 (0)	0 (0)	26 (0)	26 (0)
7. $\delta 3 \delta 3$ (5)	26 (0)	24 (0)	24 (0)	0 (0)	24 (0)	24 (0)
8. $\delta 3 \delta 3$ (5)	28 (0)	20 (0)	0 (0)	0 (0)	20 (0)	20 (0)
9. $\beta 1 \alpha 4$ (9)	16 (0)	17 (0)	0 (0)	0 (0)	0 (0)	2 (0)
10. $\alpha 4 \beta 1$ (10)	31 (0)	17 (0)	7 (0)	0 (0)	0 (0)	6 (0)
11. $\delta 2 \beta 3$ (17)	16 (0)	9 (0)	0 (0)	1 (0)	0 (0)	1 (0)
12. $\beta 3 \delta 2$ (18)	16 (0)	14 (0)	0 (0)	0 (0)	0 (0)	0 (0)
13. $\gamma 2 \beta 4$ (22)	18 (1)	19 (1)	0 (1)	19 (1)	19 (1)	19 (1)
14. $\beta 4 \gamma 2$ (23)	28 (0)	9 (0)	2 (0)	28 (0)	0 (0)	2 (0)
15. $\alpha 2 \alpha 4$ (52)	19 (0)	12 (0)	2 (0)	0 (0)	0 (0)	1 (0)
16. $\alpha 4 \alpha 2$ (51)	28 (0)	10 (0)	0 (0)	0 (0)	1 (0)	2 (0)

Note: Compliance percentages are rounded to the nearest integer, with random percentages in parentheses.

Appendix H. Analysis of Search

This appendix provides background for Section I.B's and Table 4's discussion of types' search implications; more background will be provided in CGC (2006).

We begin with a detailed derivation of Table 4's search implications for our types. We seek minimal restrictions to avoid imputing irrationality to subjects whose cognition we cannot directly observe. Recall that we take a procedural view of decision-making, in which a subject's type determines his search and guess, both with error. Under our assumptions, each of our types implies an essentially unique, pure adjusted guess in each game, which maximizes its expected payoff given beliefs based on some model of others' decisions. The leading role in the derivations is played by a type's *ideal guesses*, those that would be optimal given the type's beliefs, ignoring its limits. A type's ideal guess completely determines its adjusted guess in a game, and the resulting outcome, via the adjustment function $R(a^i, b^i; x^i) \equiv \min\{b^i, \max\{a^i, x^i\}\}$. A type's ideal guess also determines its *minimal* search implications, because a subject can enter his ideal guess and know that his adjusted guess will be optimal without checking his own limits.

Under standard assumptions, an expected-payoff maximizing player looks up all costlessly available information that can affect his beliefs. We therefore require that if a type's guess depends on a parameter, that parameter must appear at least once in the type's look-up sequence. This is uncontroversial, but of limited use because most subjects satisfy it by chance for most types in most games. We supplement it by restricting the order of look-ups. Recall that each type is naturally associated with algorithms that process payoff information into guesses. These require series of arithmetic *operations* on parameters; we call operations that logically precede any other operation *basic*. Subjects' searches in our pilots, our R/TS treatments, and CJ's and CGCB's experiments suggest that most subjects perform operations one at a time via look-ups that are adjacent (consecutive) in their sequences, starting with basic operations, remembering their results, and otherwise relying on repeated look-ups rather than memory. We stylize these regularities by requiring that in each game, the basic operations needed to identify a type's ideal guess are represented at least once in the look-up sequence by adjacent look-ups, in any order, and that other operations are represented at least once by the associated look-ups, in any order, but possibly separated by other look-ups. These assumptions adapt CGCB's (2001, Section 3.C) Occurrence and Adjacency assumptions in ways appropriate to current design. We stress that their motivation is empirical: In theory, a subject could scan the parameters in any order and rely

on memory to perform his type's operations, making the order of look-ups useless in inferring cognition; but real subjects rarely do that. We call the look-ups that satisfy these search requirements for a given type the type's *relevant* look-ups.

Table 4 in the paper lists the expressions for our types' ideal guesses and the associated relevant look-ups, in our notation for limits and targets and the associated box numbers in which MouseLab records subjects' look-up sequences in our design (Figure 6 in the paper or Appendix C: 1 for a^i , 2 for p^i , 3 for b^i , 4 for a^j , 5 for p^j , 6 for b^j). In Table 4 basic operations are represented by the innermost look-ups, grouped within square brackets; these can appear in any order, but *may not* be separated by other look-ups. Other operations are represented by look-ups grouped within parentheses or curly brackets; these can appear in any order, and *may* be separated by other look-ups. The look-ups for each type's operations are shown in the order that seems most natural to us, if there is one.

An $L1$ player i , for instance, best responds to the belief that player j 's guess is uniformly distributed between his limits. This yields a guess for j that is never adjusted, and averages $[a^j+b^j]/2$. By Observation 2, $L1$'s ideal guess is $p^i[a^j+b^j]/2$, which will be automatically adjusted, if necessary, to $R(a^i, b^i; p^i[a^j+b^j]/2) \equiv \min\{b^i, \max\{a^i, p^i[a^j+b^j]/2\}\}$. An $L1$ player i therefore has relevant look-up sequence: $\{[a^j, b^j]$ (to compute j 's average guess), p^i (to identify i 's ideal guess) $\} \equiv \{[4, 6], 2\}$. Thus, the look-ups $a^j \equiv 4$ and $b^j \equiv 6$ associated with the basic operation $[a^j+b^j]/2$ must appear adjacently at least once, in any order; and the look-up $p^i \equiv 2$ for the operation $p^i[a^j+b^j]/2$ must appear at least once, possibly separated from $[a^j, b^j] \equiv [4, 6]$, and in any order.

An $L2$ player i best responds to the belief that player j is $L1$, taking the adjustment of j 's guess into account. An $L1$ player j 's adjusted guess is $R(a^j, b^j; p^j[a^i+b^i]/2)$, so an $L2$ player i 's ideal guess is $p^i R(a^j, b^j; p^j[a^i+b^i]/2)$, which will be adjusted to $R(a^i, b^i; p^i R(a^j, b^j; p^j[a^i+b^i]/2))$. An $L2$ player i therefore has relevant look-up sequence: $\{([a^j, b^j], p^j)$ (to predict j 's $L1$ ideal guess), a^i, b^i (to predict j 's $L1$ adjusted guess), p^i (to identify i 's ideal guess) $\} = \{([1, 3], 5), 4, 6, 2\}$.¹

¹With automatic adjustment, an $L2$ player i does not need to know his own limits to play the game or think about the effects of his own guess being adjusted, but does need to know them to predict j 's $L1$ guess. By contrast, an $L1$ player i does not need to know his own limits, only j 's. As the possible values of the limits are not public knowledge, an $L2$ player i cannot infer that adjustment of player j 's ideal guess can occur only at his upper (lower) limit when $p^j > 1$ ($p^j < 1$). An $L2$ subject who incorrectly infers this might omit $b^j = 4$ ($b^j = 6$) when $p^j > 1$ ($p^j < 1$). By contrast, in games 2 and 16 an $L2$ subject can infer from his partner's ideal guess being above the partner's upper limit that the lower limit is irrelevant, and so legitimately omit $b^j = 4$. This possibility never arises for $L2$'s partner's upper limit, but it does arise in a few games (for lower or upper limits) for $L3$, $D1$, and $D2$. We use the

An $L3$ player i best responds to the belief that player j is $L2$, taking the adjustment of j 's guess into account. An $L2$ player j 's adjusted guess is $R(a^j, b^j; p^j R(a^i, b^i; p^i [a^i + b^i]/2))$, so an $L3$ player i 's ideal guess is $p^i R(a^j, b^j; p^j R(a^i, b^i; p^i [a^i + b^i]/2))$, which will be adjusted to $R(a^i, b^i; p^i R(a^j, b^j; p^j R(a^i, b^i; p^i [a^i + b^i]/2)))$. An $L3$ player i therefore has relevant look-up sequence: $\{([a^j, b^j], p^j), (a^j, b^j, p^j)\}$ (to predict j 's $L2$ ideal guess), a^j, b^j (to predict j 's $L2$ adjusted guess), p^j (to identify i 's ideal guess) $= \{([4, 6], 2), 1, 3, 5\}$. For minimal restrictions, with order within curly brackets unrestricted, this simplifies to $\{([a^j, b^j], p^j), a^j, b^j, p^j\} = \{([4, 6], 2), 1, 3, 5\}$.

A $D1$ player i deletes one round of dominated guesses for player j and then best responds to uniform beliefs over j 's remaining guesses. The first round of dominance reduces j 's guesses to the interval $[\max\{a^j, p^j a^i\}, \min\{p^j b^i, b^j\}]$. Thus, a $D1$ player i 's ideal guess is $p^i(\max\{a^j, p^j a^i\} + \min\{p^j b^i, b^j\})/2$, which will be adjusted to $R(a^i, b^i; p^i(\max\{a^j, p^j a^i\} + \min\{p^j b^i, b^j\})/2)$. A $D1$ player i therefore has relevant look-up sequence: $\{(a^j, [p^j, a^i]), (b^j, [p^j, b^i])\}$ (to delete j 's dominated guesses), p^j (to identify i 's ideal guess) $= \{(4, [5, 1]), (6, [5, 3]), 2\}$.² $D1$'s look-up implications differ somewhat from $L2$'s, although both respond similarly to iterated dominance.

A $D2$ player i deletes two rounds of dominated guesses for player j and best responds to uniform beliefs over j 's remaining guesses. The first round reduces i 's guesses to the interval $[\max\{a^i, p^i a^j\}, \min\{p^i b^j, b^i\}]$ and j 's guesses to $[\max\{a^j, p^j a^i\}, \min\{p^j b^i, b^j\}]$. The second round further reduces j 's guesses to $[\max\{\max\{a^j, p^j a^i\}, p^j \max\{a^i, p^i a^j\}\}, \min\{p^j \min\{p^i b^j, b^i\}, \min\{p^i b^j, b^i\}\}]$. A $D2$ player i 's ideal guess is therefore $p^i[\max\{\max\{a^j, p^j a^i\}, p^j \max\{a^i, p^i a^j\}\} + \min\{p^j \min\{p^i b^j, b^i\}, \min\{p^i b^j, b^i\}\}]/2$, which will be adjusted to $R(a^i, b^i; p^i[\max\{\max\{a^j, p^j a^i\}, p^j \max\{a^i, p^i a^j\}\} + \min\{p^j \min\{p^i b^j, b^i\}, \min\{p^i b^j, b^i\}\}]/2)$. A $D2$ player i therefore has relevant look-up sequence: $\{(a^j, [p^j, a^i]), (b^j, [p^j, b^i])\}$ (to delete i 's first-round dominated guesses), $(a^j, [p^j, a^i]), (b^j, [p^j, b^i]), p^j$ (to delete j 's first- and second-round dominated guesses), p^i (to identify i 's ideal guess) $\equiv \{(1, [2, 4]), (3, [2, 6]), (4, [5, 1]), (6, [5, 3]), 5, 2\}$.

We begin our analysis of an *Equilibrium* player's search implications by restating and proving Observation 1 from the paper, whose proof plays an important role in deriving them.

characterizations in the text for these types despite this qualification because we believe it is more in keeping with subjects' search behavior.

²With automatic adjustment, a $D1$ player i needs to know his limits only to delete player j 's dominated guesses, and need not otherwise consider the adjustment of j 's guess. Also, when $p^j > 1$ (< 1), dominance for j usually occurs only near his lower (upper) limit (Table 3). A $D1$ subject who incorrectly assumes that this is true in all of our games may omit $(b^j, [p^j, b^i]) = (6, [5, 3])$ when $p^j > 1$ or $(a^j, [p^j, a^i]) = (4, [5, 1])$ when $p^j < 1$.

Observation 1: Unless $p^i p^j = 1$, each guessing game in the above class has an essentially unique equilibrium, in pure strategies, with adjusted guesses as follows:

If $p^i p^j < 1$,

(a) $y^i \equiv R(a^i, b^i; x^i) = a^i$ if $p^i a^j \leq a^i$, and $y^i = \min\{p^i a^j, b^i\}$ if $p^i a^j > a^i$; and

(b) $y^j \equiv R(a^j, b^j; x^j) = a^j$ if $p^j a^i \leq a^j$, and $y^j = \min\{p^j a^i, b^j\}$ if $p^j a^i > a^j$.

Further, although i 's ideal guess is $p^i y^j$ and j 's is $p^j y^i$, when $p^i p^j < 1$, i can enter $p^i a^j$, or j can enter $p^j a^i$, in lieu of his ideal guess and still be sure that his adjusted guess will be optimal.

If $p^i p^j > 1$,

(c) $y^i \equiv R(a^i, b^i; x^i) = b^i$ if $p^i b^j \geq b^i$, and $y^i = \max\{a^i, p^i b^j\}$ if $p^i b^j < b^i$; and

(d) $y^j \equiv R(a^j, b^j; x^j) = b^j$ if $p^j b^i \geq b^j$, and $y^j = \max\{a^j, p^j b^i\}$ if $p^j b^i < b^j$.

Further, although i 's ideal guess is $p^i y^j$ and j 's is $p^j y^i$, when $p^i p^j > 1$, i can enter $p^i b^j$, or j can enter $p^j b^i$, in lieu of his ideal guess and still be sure that his adjusted guess will be optimal.

Proof: Suppose that $p^i p^j < 1$; the proof when $p^i p^j > 1$ is analogous. First assume, to obtain a contradiction, that i 's and j 's equilibrium adjusted guesses satisfy $y^j > a^i$ and $y^i > a^j$. Then j 's ideal guess is $p^j y^i$ and his equilibrium adjusted guess is $\min\{p^j y^i, b^j\} \leq p^j y^i$; and i 's ideal guess is $p^i y^j$ and his equilibrium adjusted guess is $\min\{p^i y^j, b^i\} \leq p^i y^j$. Thus i 's ideal guess $y^i = p^i y^j = p^i \min\{p^j y^i, b^j\} \leq p^i p^j y^i$, a contradiction. Thus when $p^i p^j < 1$, either $y^i = a^i$ or $y^j = a^j$ or both.³ To see that (a) is true, note that if $y^j = a^j$, it is immediate that $y^i = a^i$ if $p^i a^j \leq a^i$ and that $y^i = \min\{p^i a^j, b^i\}$ if $p^i a^j > a^i$. If $y^j > a^j$ and $p^i a^j \leq a^i$, then from the first conclusion $y^i = a^i$, so there is nothing left to prove. The case where $y^j > a^j$ and $p^i a^j > a^i$ cannot arise, because then $y^i = \min\{p^i a^j, b^i\}$ and so $p^i a^j > a^i$, but the conditions $p^i a^j > a^i$ and $p^i a^j > a^j$ are incompatible when $p^i p^j < 1$. The proof of (b) is analogous. To see that when $p^i p^j < 1$, i can enter $p^i a^j$, or j can enter $p^j a^i$, in lieu of his ideal guess, note that when i 's ideal guess $p^i y^j \leq a^i$, then $p^i a^j \leq p^i y^j \leq a^i$, so both $p^i y^j$ and $p^i a^j$ are adjusted to a^i ; and that when i 's ideal guess $p^i y^j > a^i$, then $y^j = a^j$ and $p^i a^j \geq a^i$, so both $p^i y^j$ and $p^i a^j$ are adjusted to $\min\{p^i a^j, b^i\}$. The argument for j is analogous.

□

³Although our design includes no games in which one player's equilibrium strategy is at his lower limit while the other's is at his upper limit, our subjects have no way of knowing this. We give the full argument because it is needed

An *Equilibrium* player i 's ideal guess is $\{a^i \text{ if } p^i a^i \leq a^i \text{ or } \min\{p^i a^i, b^i\} \text{ if } p^i a^i > a^i\} \text{ if } p^i p^j < 1 \text{ or } \{b^i \text{ if } p^i b^j \geq b^i \text{ or } \max\{a^i, p^i b^j\} \text{ if } p^i b^j < b^i\} \text{ if } p^i p^j > 1$. This ideal guess can be identified by evaluating this formula (assuming that logical implications of things that are public knowledge are also public knowledge); using Observation 1's implication that if $p^i p^j < 1$ (> 1), i can enter $p^i a^j$ ($p^i b^j$) in lieu of his ideal guess and still be sure that his adjusted guess will be optimal; or by equilibrium-checking, best-response dynamics, or iterated dominance. Using Observation 1's implication is uniformly easier than evaluating the formula; it yields the look-up sequence: $\{[p^i, p^j]$ (to check if the product of the targets is greater or less than one), a^j (to identify $p^i a^j$ when $p^i p^j < 1$) $\} = \{[2, 5], 4\}$ if $p^i p^j < 1$; or $\{[p^i, p^j], b^j$ (to identify $p^i b^j$ when $p^i p^j > 1$) $\} = \{[2, 5], 6\}$ if $p^i p^j > 1$. In principle, minimal restrictions for equilibrium-checking should allow for the possibility that a subject correctly conjectures whether his equilibrium guess is determined by players' lower or upper limits. If so, he need only identify his ideal guess and verify that it is consistent with equilibrium. This requires the look-up sequence: $\{p^i, a^j$ (to identify i 's ideal guess, given his conjecture), p^j (to verify that it is consistent with equilibrium for player j) $\}$ if $p^i p^j < 1$ or $\{p^i, b^j$ (to identify i 's ideal guess, given his conjecture), p^j (to verify that it is consistent with equilibrium for player j) $\}$ if $p^i p^j > 1$. These restrictions, $[p^i, a^j, p^j] = [2, 4, 5]$ if $p^i p^j < 1$ or $[p^i, b^j, p^j] = [2, 6, 5]$ if $p^i p^j > 1$, are less stringent than those for any other method of identifying equilibria. However, a subject cannot be sure of his conjecture without checking whether $p^i p^j > 1$, and it seems more realistic to add the $[2, 5]$ order requirement, as needed for evaluating the formula.⁴

Finally, although we define *Sophisticated*'s ideal guess as its best response to the distribution of its potential partners' guess, as estimated from our subjects' guesses, *Sophisticated* must deduce its beliefs from the structure of the game. We assume that this requires identifying both the game's equilibrium and the other player's guesses that survive two rounds of dominance

to derive the search implications, even though this part of the proof is immediate if we ignore players' upper limits.

⁴Even two rounds of iterated dominance implies more stringent restrictions; and best-response dynamics requires still more, $\{[a^i, b^i], [a^j, b^j], p^i, p^j\} \equiv \{[1, 3], [4, 6], 2, 5\}$ just to identify a starting profile of guesses within the limits. Without the $[2, 5]$ order requirement, *Equilibrium*'s search implications are the only ones with no order restrictions, which makes them much easier to satisfy than other types' and obscures the implications of the search data, leading our econometric model to spuriously identify some subjects' searches as *Equilibrium* even though by inspection they are obviously more consistent with other types. Even with the order requirement *Equilibrium*'s search implications are as simple as *LI*'s and simpler than other boundedly rational types', unlike in CGCB's and CJ's designs. Our 17 (of 29) highly successful R/TS *Equilibrium* subjects (those with 15-16 exact equilibrium guesses) violated *Equilibrium*'s search implications with the order requirement 6% of the time, only 3 of them in more than 1 game.

for the other player and one for the subject. Because the search requirements for these are a subset of $D2$'s, we take *Sophisticated*'s relevant look-up sequence to be the same as $D2$'s.⁵

We close this appendix by giving Baseline subjects' look-up data in terms of search compliance, as defined in Section II.E and used in our econometric analysis of guesses and search. The compliance data are printed on one page for easy navigability; zoom for legibility.

⁵We stop at two rounds of dominance for the other player and one for the player himself because in previous work few subjects have responded to dominance beyond these levels. Because requiring more rounds, for either player, would make the search requirements for *Sophisticated* more stringent, and few subjects comply with them even as defined here, this assumption strengthens our ultimate conclusion that none of our subjects are *Sophisticated*.

