Regret Lotteries: Short-Run Gains, Long-run Losses
For Online Publication: Appendix B - Screenshots and Instructions

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B1 Interface Screenshots

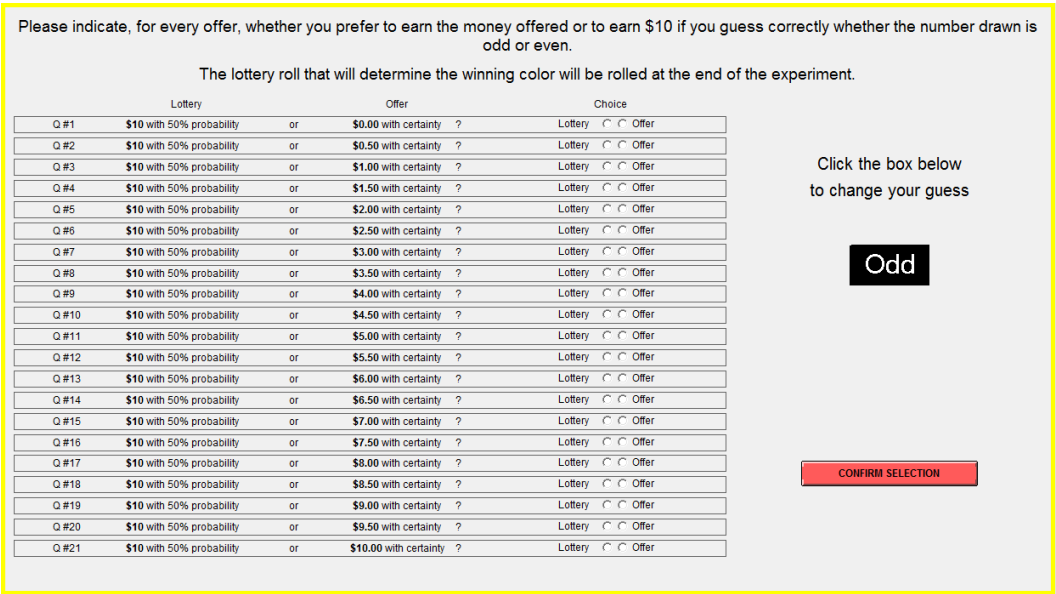

Figure B1: Risk elicitation/BDM Training

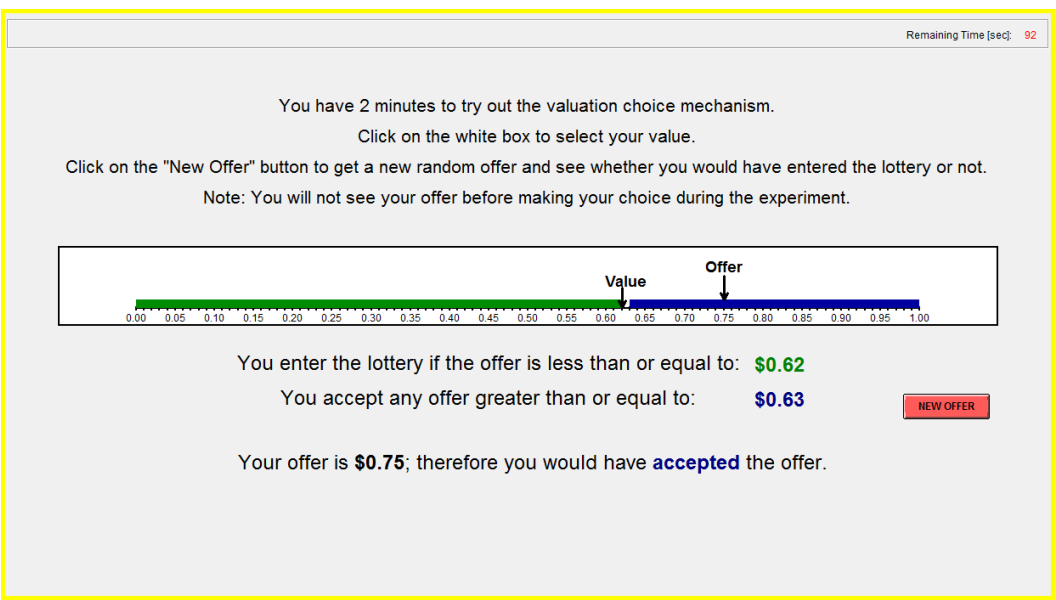

Figure B2: BDM practice

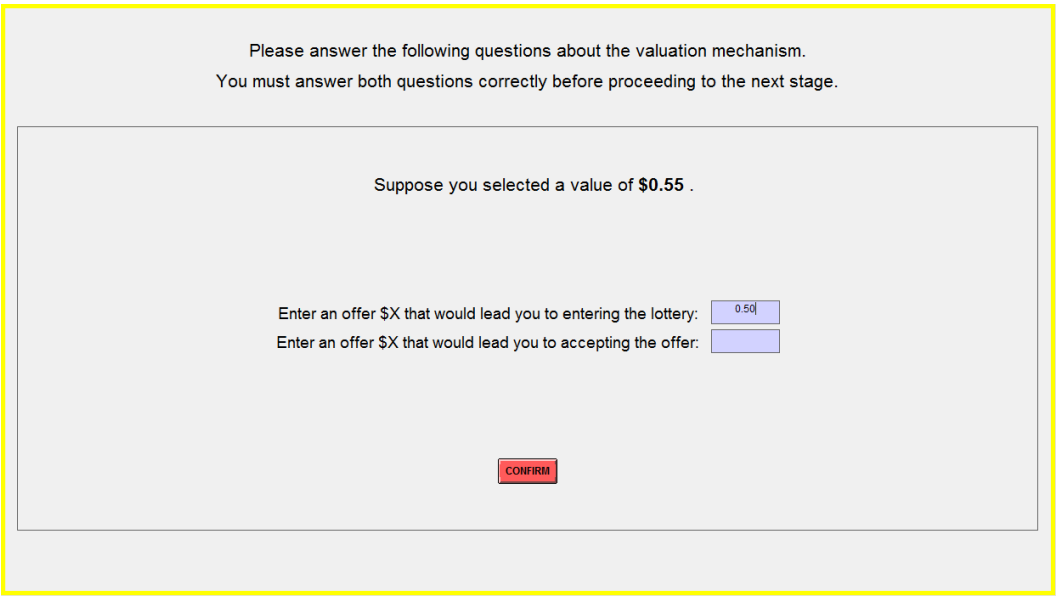

Figure B3: BDM quiz

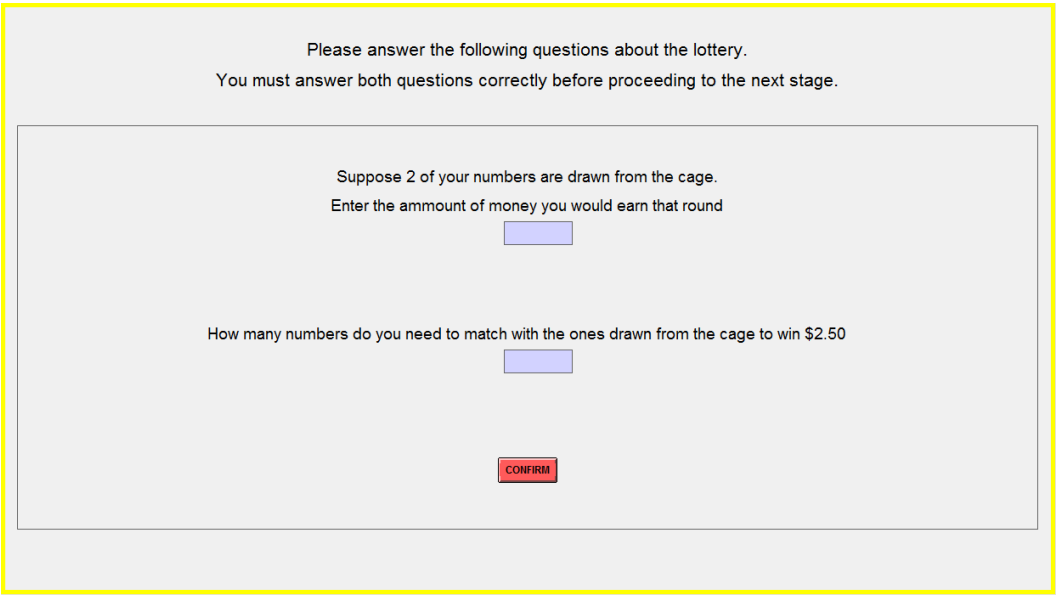

Figure B4: Lottery quiz

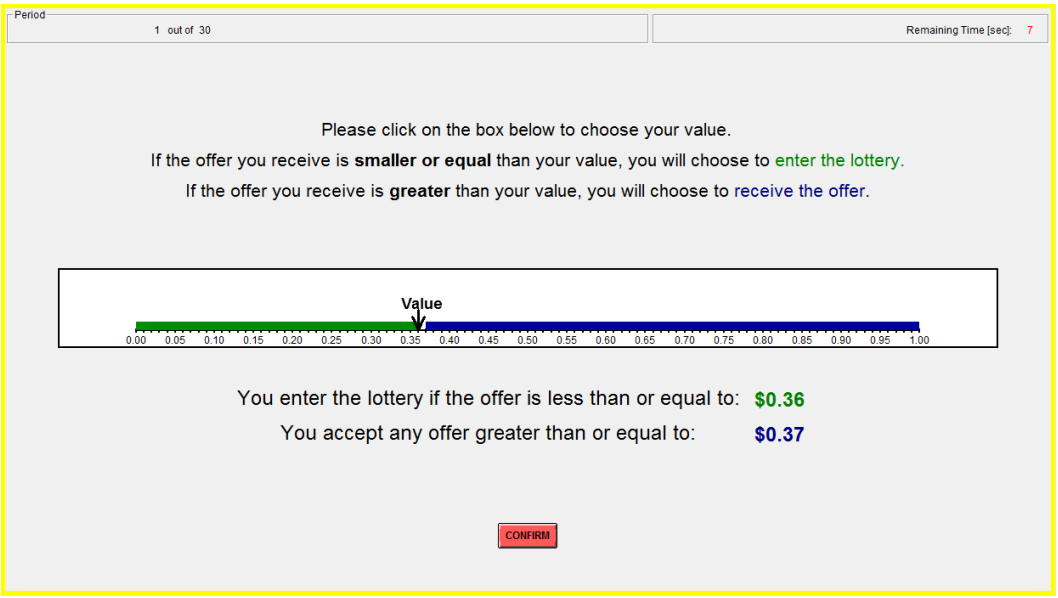

Figure B5: Value choice screen

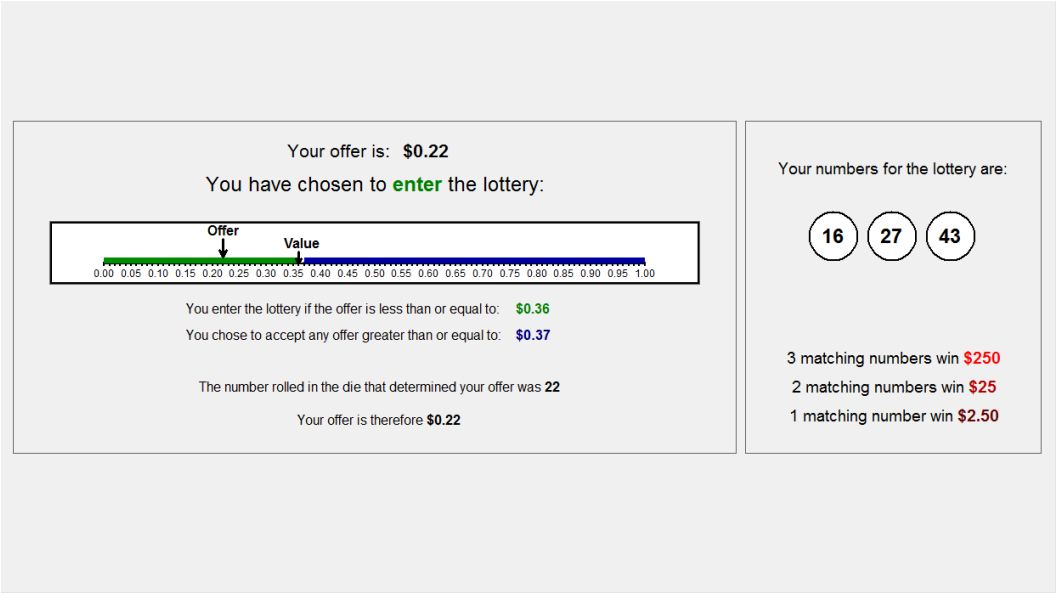

Figure B6: Choice feedback - Entered lottery

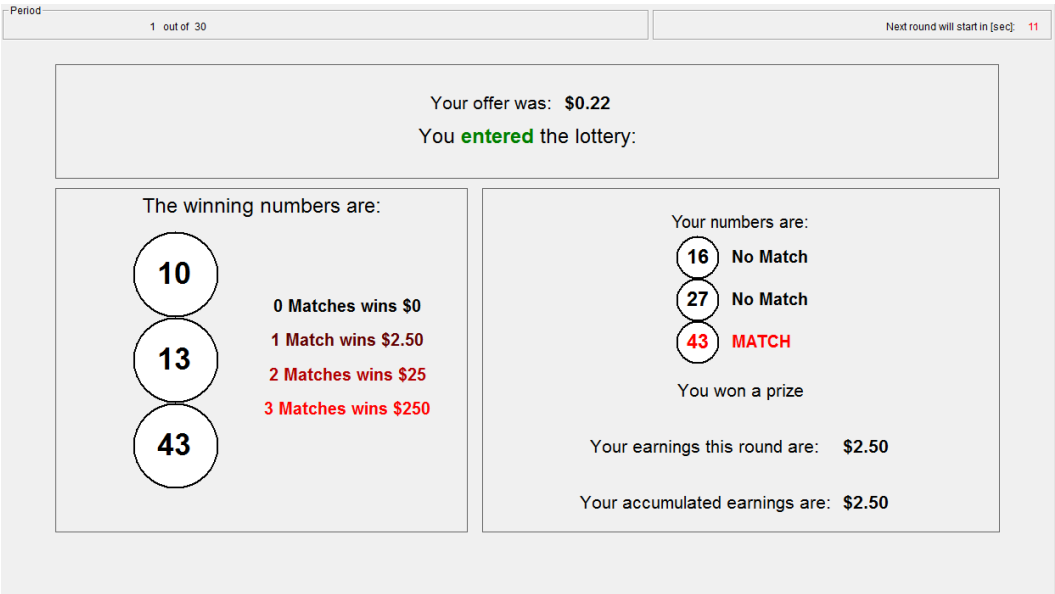

Figure B7: Earnings feedback - Entered lottery

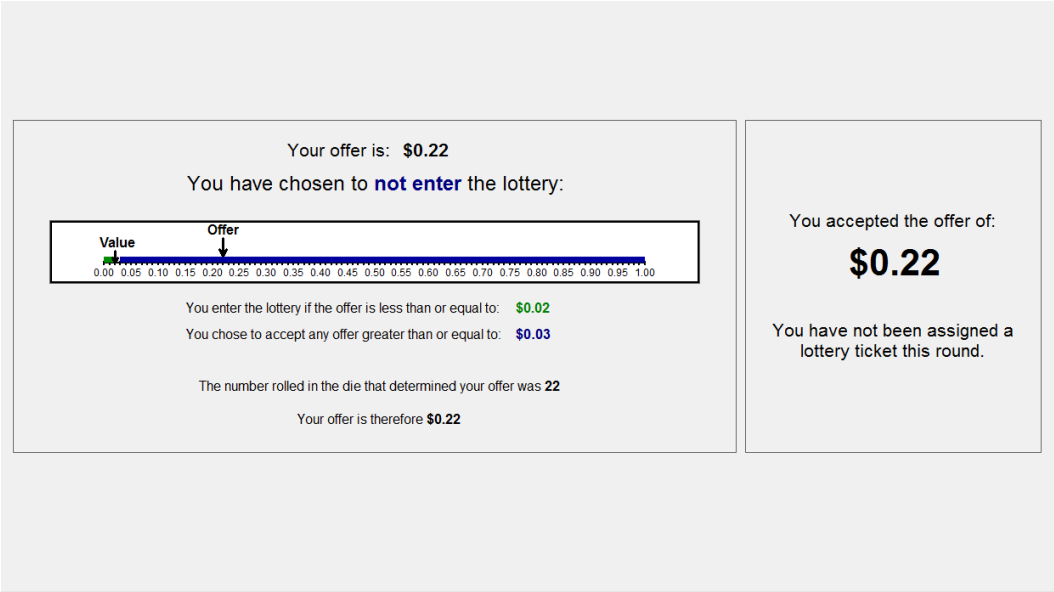

Figure B8: Choice feedback - Took offer & SL

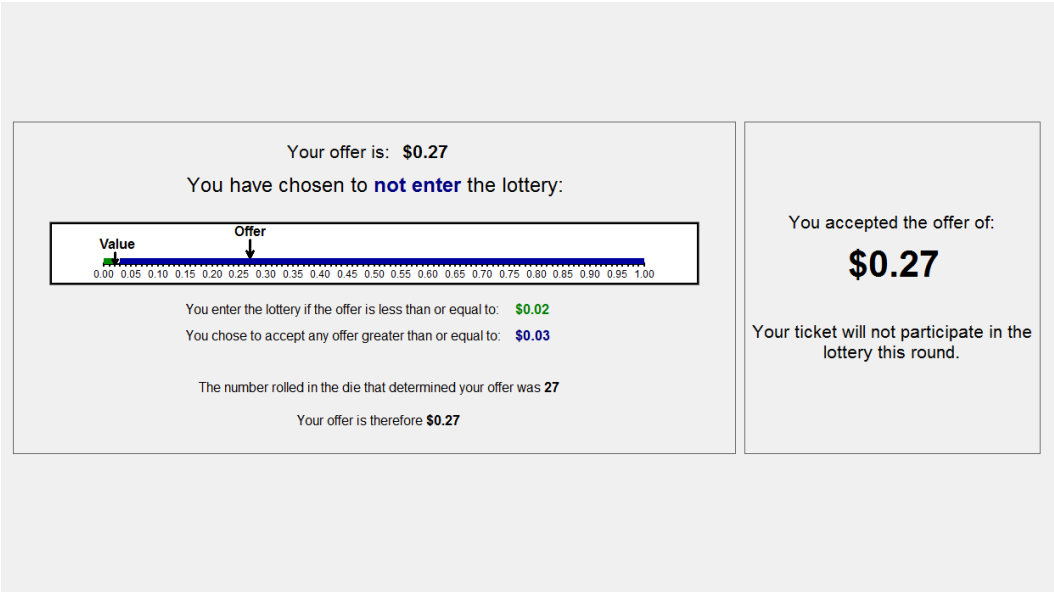

Figure B9: Choice feedback - Took offer & RL

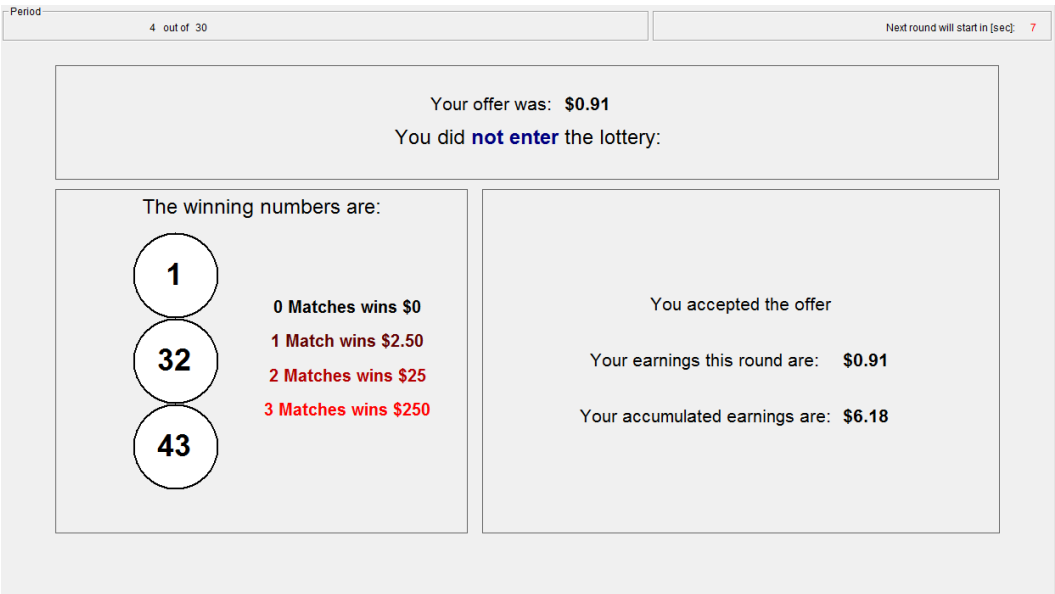

Figure B10: Earnings feedback - Took Offer

B2 Instructions

The following attachment is the instructions for the Sequential treatment of the regret lottery (subjects have a physical copy of these instructions, which were read aloud.) The instructions here illustrate the repeated treatment for a regret lottery (blue text is specific to the regret treatments). Edits in square brackets do not appear in the instructions, where we indicate the standard lottery language with red text.

In terms of timing, the first page (here on page viii) was handed out at the beginning of the experiment. Subjects then complete the price list task (see screenshot B1). We then hand out the remaining instructions (sheets ix–xii, and the summary sheet) and use the price list to reinforce their understanding of the BDM elicitation.[1]

[1]This instruction technique is due to PJ Healy at Ohio State, who we thank for his input and advice on implementing the BDMs.

Introduction [Regret/Standard Lottery]

Thank you for participating in our study. Please turn off mobile phones and other electronic devices. These must remain turned off for the duration of the session.

This is an experiment on the economics of decision making. The money you earn will depend on both your decisions and chance. The session will be conducted through your computer terminal and the experimenter at the front. Do not talk to or attempt to communicate with any other participants during the experiment. If you have a question please raise your hand and one of the experimenters will come to where you are sitting to answer your question in private.

During the experiment, you will have the opportunity to earn a considerable amount of money depending on your decisions. At the end of the experiment, you will be paid in private and in cash (any amounts in excess of $200 will be paid privately by arrangement). On top of what you earn through your decisions during the experiment, you will also receive a $5 participation fee.

First Task

Our first task is to introduce you to the lottery cage that will be used throughout the experiment. It is a cage with fifty balls in it, numbered from 1 to 50, which we will spin to draw random balls from. During the experiment we will spin the cage and select balls from it at random, and enter the selected numbers into the monitor computer.

As a first task, we would like you to answer the twenty-one questions displayed on your screen. At the end of this session we will spin the lottery cage, and one participant in the room will be randomly selected to be paid based on their answer to one of the twenty-one questions on your screen (with equal probability of each question being selected).

In each question you are given the choice between entering a lottery in which you will win $10 if you correctly guess whether the number drawn from the cage is odd (numbers 1, 3,..., 49) or even (numbers 2, 4,...,50) and $0 if your guess is incorrect. The alternative option in each of the twenty-one questions is an amount $\$X$ with certainty, which varies across the questions.

If you are selected for payment on this first task, the computer will select one of the twenty-one questions for payment. If you chose the amount $\$X$ on the selected question, then $\$X$ will be added to your final payoff. If instead you chose to enter the lottery on that question, $10 will be added to your final payment only if your guess for the ball being odd/even was correct.

Please enter your answers to the questions now, where you can select your guess of odd or even on the right of your screen.

Main Task

The experiment will consist of 30 rounds. In each round you will have to choose between receiving a certain amount of money $\$X$ or entering a lottery.

In the lotteries for our main task, three winning numbers will be selected sequentially from the cage. Your ticket for all of the lotteries in this experiment (three different numbers <A,B,C> from 1 to 50) was randomly assigned to you when you entered this session when you were assigned a desk number. Your ticket has been printed out on your desk, and has been recorded on your computer. If you **enter the lottery** in any round, the prizes that are added to your final payment are as follows:[In any round where your choose to enter the lottery, the computer will randomly assign a new entry ticket to you (three different numbers <A,B,C> from 1 to 50, where every possible ticket is equally likely). If you **enter the lottery** in any round, the prizes that are added to your final payment are as follows:]

- If all three numbers on your ticket match the winning numbers drawn from the cage that round, the prize is $250. Anyone who enters the lottery therefore has a 1 in 19,600 chance to win $250, which is equivalent to a 0.005% probability.
- If there are two matches on your ticket to the winning numbers drawn that round, the prize is $25. Anyone who enters the lottery therefore has a 141 in 19,600 chance to win $25, which is equivalent to a 0.72% probability.
- If any single number on your ticket matches one of the winning numbers drawn that round, the prize is $2.50.Anyone who enters the lottery therefore has a 3,243 in 19,600 chance to win $2.50, which is equivalent to a 16.55% probability.
- All tickets without any matches to the winning numbers lose.Anyone who enters the lottery therefore has a 16,215 in 19,600 chance of losing, which is equivalent to an 82.73% probability.

For example, if the winning numbers drawn were 1, 2 and 3:

- Any entrant with the lottery ticket <1, 2, 3> would win $250 for the round.
- Any entrants with lottery tickets with two matching numbers would win $25 for the round (tickets that looked like <1,2,⊗>, <1,3,⊗> or <2,3,⊗> for any non-matching number ⊗).
- Any entrant with a ticket number with a 1 or a 2 or a 3 on it would win $2.50 (tickets that looked like <1,⊗,⊗>, <2,⊗,⊗> or <3,⊗,⊗> , etc.).
- All other ticket numbers lose, so any lottery entrants with a ticket without the numbers 1, 2 or 3 on it would not win any amount that round.

Valuation Procedure

We are interested in how much you value entering the lottery.

For that purpose, we could ask a series of questions each round like those from the first task *"Would you prefer $X for sure, or would you like to enter the lottery?"* for all of the values for $\$X$ between \$0.00 to \$1.00.

Presumably, you would prefer to enter the lottery when the offered amount $\$X$ is very small, and when the offered amount is very large you would prefer to take the offer and not enter the lottery. In particular, after some point you'd likely switch from choosing to enter the lottery to instead taking the offer. The last offered amount $\$Y$ at which you prefer to enter the lottery is therefore the **maximum** amount of money you'd be willing to pay to enter. This is what we'll call your **value** for the lottery.

One problem with asking you which you prefer (entering the lottery or receiving the offer) for all of the possible values from \$0.00 to \$1.00 is that this would be quite time consuming. Instead, we will ask you to answer the following question each round:

- ***What is the value $Y above which you would prefer the offered amount, and below which you would prefer to enter the lottery?***

After you have answered this question, we will roll a fair 100-sided die for each participant in the room. Your offer $\$X$ will be given by the number rolled on this die (in cents). So for every one of the 30 rounds in the experiment you will be given an offer $\$X$ between \$0.01 and \$1.00.

Whether or not you will enter the lottery that round or add the offer $\$X$ to your final payment is determined by the choice you made for your value $\$Y$:

- If the offer $\$X$ is **less than or equal** to $\$Y$, you will give up the offer and enter the lottery.
- If the offer $\$X$ is **greater than** $\$Y$, you will accept the offer and $\$X$ will be added to your final payment, but your ticket will not be entered into the lottery that round.[but you will not be assigned a ticket for the lottery that round.]

This process is designed to be similar to us asking you the hundred possible questions:

- ***Would you prefer to enter the lottery or receive the certain payment $X?*** (for $\$X$=\$0.01,\$0.02,...,\$0.99, \$1.00)

In particular, this process has been designed so that the best strategy is to choose $\$Y$ *equal* to your value for entering the lottery. Why?

- Suppose you value the lottery at **\$0.05**:
  - If you chose \$0.02 as your value, there is some chance the computer will select an offer between \$0.03 and \$0.05, and you wouldn't enter the lottery even though you value entering more than the offered amount.

  - If you enter \$0.08 as your value, there is some chance the computer will select an offer between \$0.06 and \$0.08 and you will enter the lottery, even though you value entering less than the offered amount.
  - By entering \$0.05 you guarantee that you will keep all offers greater than your value, and you will only enter the lottery when the offer is less than or equal to your value.

- Similarly, suppose you value the lottery at **\$0.95**:
  - If you chose \$0.92 as your value, there is some chance the computer will select an offer between \$0.93 and \$0.95, and you wouldn't enter the lottery despite valuing entering more than these amounts.
  - If you enter \$0.98 as your value, there is some chance you will be giving up offers between \$0.96 and \$0.98, and you will enter the lottery, even though you value entering less than the offered amount.
  - By entering \$0.95 you guarantee that you will keep all offers greater than your value, and you will only enter the lottery when the offer is less than or equal to your value.

Again, this procedure has been designed so that in every round, you have *no incentive to lie* about your value for the lottery.

Payment

Your final payment for this experiment is the sum of your earnings over all 30 rounds. Any offers accepted or prizes won from the lottery will be automatically added to your final earnings at the end of each round. One participant in the room will also be paid for the first task (the initial twenty-one questions). Additionally, a \$5 participation fee will be added to all participants' final earnings.

Summary

We have also included a summary sheet for the main task. Please look at it now

Practice

We will now give you two minutes to practice entering your values by clicking on the slider on your screens. You can click the slider freely to practice setting your value $\$Y$, where you can also hit the red button to simulate the computers die roll to determine the offer $\$X$.

Note that, once the experiment begins, you will not see the offer $\$X$ until **after** you have selected your value $\$Y$, we are including this here to help you understand the process. None of the choices you make in the practice period will count for final payment.

After the two-minutes of practice, the experimental interface will then test you on your understanding of these instructions. After **everyone** has successfully completed this quiz the experiment will begin.

Summary Sheet

Final Payment:

- Each round's payment (either the offer, or any prizes won in the lottery) will be added to your final earnings.
- Your final payment is the total across the 30 rounds in the experiment, plus your show-up fee of \$5. One person will also be paid for the first task.

Values:

- Each round you will be asked for the amount you value entering the lottery, $\$Y$.
  - If you fail to select a value $\$Y$ during the allotted time, the computer will assign you one randomly.
  - If you do not confirm your decision in the allotted time the last value you clicked will be considered your choice of $\$Y$.
- After you have chosen $\$Y$, the computer will roll a different 100-sided die for every participant. Your offer $\$X$ is \$0.01 multiplied by this die-roll.
  - If your offer $\$X$ is less than or equal to your chosen value $\$Y$ you will **enter the lottery.**
  - If your offer $\$X$ is greater than your chosen value $\$Y$ you will **take the offer**.
- This process has been designed so that your best strategy to is to make your choice for $\$Y$ equal to the maximum price you would pay to enter the lottery.

If you enter the lottery:

- In every round where you enter the lottery, the entry ticket on your desk will be entered into the lottery.[In every round where you enter the lottery the computer will randomly assign an entry ticket to each entrant and display it on their screens, where all possible tickets are equally likely.]
- The lottery will be conducted and three winning numbers will be drawn in sequence from the cage.
- After we have selected the winning numbers, you will be informed on whether your entry has won any prizes, and they will be added to your earnings.
- Given the three winning numbers drawn from the cage, the prizes are given in the table below:

Your Ticket	Prize	Probability
Exactly matches all three winning numbers	\$250.00	$\frac{1}{19{,}600}$ or 0.005%
Matches any two of the three winning numbers	\$25.00	$\frac{141}{19{,}600}$ or 0.72%
Matches any single winning number	\$2.50	$\frac{3{,}243}{19{,}600}$ or 16.55%
Otherwise	\$0.00	$\frac{16{,}215}{19{,}600}$ or 82.73%

- The computer will add any prizes won to your total earnings for the experiment.

If you take the offer $\$X$:

- Your entry ticket will not be entered into the lottery,[You will not be assigned an entry ticket for that round,] and will have no stake in that round's lottery.
- The computer will add the offered amount $\$X$ to your total earnings for the experiment.