SCREENSHOTS

1 Experiment A, Updating

Instructions

You will get \$3 for completing the survey, and 10% of participants will be randomly selected to get an **additional bonus**. You must complete the study to receive payments.

Answering carefully is in your best interest. If you are selected for the additional bonus, one of the questions you answered will be randomly selected, and your bonus will be **your earnings in that question**.

Figure Screenshots-A.1: Instructions page 1.

Please **read these instructions carefully**. There will be a **short quiz** at the end.

You will face **7** different scenarios. In each scenario, the computer has created a (virtual) bag with **Green** or **Purple** balls and has **randomly drawn one ball** from the bag.

Each scenario gives you some information about the composition of the bag. For example:

A bag contains **50 Green** balls and **50 Purple** balls.

In some cases, you also receive information on the drawn ball. For example:

A bag contains:

- 50 Green balls and 50 Purple balls.
- 1/2 of Green balls are marked with an X
- 1/2 of Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **marked with an X**.

The bag is **different** in each scenario, so read carefully.

Figure Screenshots-A.2: Instructions page 2, main treatment.

Please **read these instructions carefully**. There will be a **short quiz** at the end.

You will face **7** different scenarios. In each scenario, the computer has created a (virtual) bag with **Green** or **Purple** balls and has **randomly drawn one ball** from the bag.

Each scenario gives you some information about the composition of the bag. For example:

A bag contains **50 Green** balls and **50 Purple** balls.

In some cases, you are told how the bag was constructed using an initial stock of **Green** and **Purple** balls. For example:

There is a stock of **50 Green** balls and **50 Purple** balls available. A bag was constructed as follows:

- 1/2 of the Green balls were put in the bag
- 1/2 of the Purple balls were put in the bag

The bag is different in each scenario, so read carefully.

Figure Screenshots-A.3: Instructions page 2, mirror treatment.

In some scenarios, you are asked to choose between a fixed amount of money received for sure or winning **\$30** if the drawn ball is **Purple**.

For example, you might be asked to choose between:

\$30 if drawn ball is Purple OO \$15 for sure

- If you select the left option, you win **\$30 if the drawn ball is Purple and \$0 otherwise**.
- If you select the right option, you win \$15 for sure, regardless of the color of the drawn ball.

You must answer a list of questions like this. For example:

00	\$11 for sure
00	\$12 for sure
00	\$13 for sure
00	\$14 for sure
00	\$15 for sure

The option on the left does not change, while the option on the right **gets better as you go down the list**.

You must make **a choice in all rows**, but for simplicity, you only have to **click once** on the row where you want to **switch from left to right**. You can modify your choice as many times as you want, and you can also select only the left or only the right.

Intuitively, you can think about how much you'd pay for the bet. Then, you switch to the sure amount as soon as it is above the amount you'd pay for the bet.

Below is an example for you to experience the interface (try to click).

\$30 if drawn ball is Purple	$\circ \circ$	\$0 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$7 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$12 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$18 for sure
\$30 if drawn ball is Purple	00	\$20 for sure

Figure Screenshots-A.4: Instructions page 3.

Quiz 1

A bag contains:

- 50 Green balls and 50 Purple balls.
- 9/10 of Green balls are marked with an X
- 1/10 of Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **unmarked**.

Which statement is correct?

O The drawn ball must be **Purple**.

O The drawn ball must be Green.

○ The drawn ball can be **Purple** or **Green**

Figure Screenshots-A.5: Quiz question 1, main treatment.

Quiz 1

There is a stock of **50 Green** balls and **50 Purple** balls available. A bag was constructed as follows:

- 1/10 of the Green balls were put in the bag
- 9/10 of the Purple balls were put in the bag

A ball has been drawn from the bag.

Which statement is correct?

O The drawn ball must be Purple .
O The drawn ball must be Green .
O The drawn ball can be Purple or Green

Figure Screenshots-A.6: Quiz question 1, mirror treatment.

Quiz 2

Which do you choose?

\$5.50 for sure	$\bigcirc \bigcirc$	\$1 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$2 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$3 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$4 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$5 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$6 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$7 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$8 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$9 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$10 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$11 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$12 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$13 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$14 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$15 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$16 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$17 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$18 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$19 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$20 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$21 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$22 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$23 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$24 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$25 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$26 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$27 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$28 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$29 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$30 for sure

Figure Screenshots-A.7: Quiz question 2.

A bag contains **25 Purple** balls and **25 Green** balls.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-A.8: Risk question 1.

\$30 if drawn ball is Purple	$\circ \circ$	\$1 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$2 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$3 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$4 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$5 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$6 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$7 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$8 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$9 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$10 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$11 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$12 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$13 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$14 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$15 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$16 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$17 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$18 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$19 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$20 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$21 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$22 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$23 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$24 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$25 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$26 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$27 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$28 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$29 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$30 for sure

Figure Screenshots-A.9: MPL.

A bag contains:

- 30 Green balls and 20 Purple balls.
- 1/3 of the Green balls are marked with an X
- 1/2 of the Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **marked with an X**.

Which do you choose?

Figure Screenshots-A.10: Main task, main treatment.

In the previous screen, you faced the following scenario:

A bag contains:

- 30 Green balls and 20 Purple balls.
- 1/3 of the Green balls are marked with an X
- 1/2 of the Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **marked with an X**.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn ball is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-A.11: Main task with binary scoring rule, main treatment.

How certain are you that your answer above is the **Exact Chance** that the drawn ball is **Purple**, calculated using the laws of probability?

Very unce	ərtain								Complete	ely certain
		20%								
\bigcirc										

Figure Screenshots-A.12: Cognitive uncertainty.

There is a stock of **30 Green** balls and **20 Purple** balls available. A bag was constructed as follows:

- 1/3 of the Green balls were put in the bag
- 1/2 of the Purple balls were put in the bag

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-A.13: Main task, mirror treatment.

In the previous screen, you faced the following scenario:

There is a stock of **30 Green** balls and **20 Purple** balls available. A bag was constructed as follows:

- 1/3 of the Green balls were put in the bag
- 1/2 of the Purple balls were put in the bag

A ball has been drawn from the bag.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn ball is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-A.14: Main task with binary scoring rule, mirror treatment.

%

A bag contains:

- 20 Green balls and 30 Purple balls.
- 1/2 of the Green balls are marked with an X
- 1/3 of the Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **marked with an X**.

Which do you choose?

Figure Screenshots-A.15: Complement task, main treatment.

In the previous screen, you faced the following scenario:

A bag contains:

- 20 Green balls and 30 Purple balls.
- 1/2 of the Green balls are marked with an X
- 1/3 of the Purple balls are marked with an X

A ball has been drawn from the bag. The computer informs you that this ball is **marked with an X**.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn ball is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-A.16: Complement task with binary scoring rule, main treatment.

%

There is a stock of **20 Green** balls and **30 Purple** balls available. A bag was constructed as follows:

- 1/2 of the Green balls were put in the bag
- 1/3 of the Purple balls were put in the bag

A ball has been drawn from the bag.

Which do you choose?

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Figure Screenshots-A.17: Complement task, mirror treatment.
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In the previous screen, you faced the following scenario:

There is a stock of **20 Green** balls and **30 Purple** balls available. A bag was constructed as follows:

- 1/2 of the Green balls were put in the bag
- 1/3 of the Purple balls were put in the bag

A ball has been drawn from the bag.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn ball is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-A.18: Complement task with binarized scoring rule, mirror treatment.

%

A bag contains **50 Purple** balls and **50 Green** balls.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-A.19: Risk question 2.

A bag contains **100** balls. Each ball is either **Purple** or **Green**. You are not told the exact number of **Purple** or **Green** balls. They could be all **Purple**, all **Green**, or any combination.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-A.20: Ambiguity question.

2 Experiment B, Perception

Instructions

You will get \$3 for completing the survey, and 10% of participants will be randomly selected to get an **additional bonus**. You must complete the study to receive payments.

Answering carefully is in your best interest. If you are selected for the additional bonus, one of the questions you answered will be randomly selected, and your bonus will be **your earnings in that question**.

Figure Screenshots-B.21: Instructions page 1.

Instructions (continued)

The experiment is comprised of 4 Parts.

Please **read these instructions carefully**. There will be a **short quiz at the end**.

In Part 1, you will face **5** different scenarios. In each scenario, the computer has created a (virtual) bag with **Green** or **Purple** balls and has **randomly drawn one ball** from the bag.

Each scenario gives you some information about the composition of the bag. For example:

A bag contains **50 Green** balls and **50 Purple** balls.

The bag is **different** in each scenario, so read carefully.

Figure Screenshots-B.22: Instructions page 2.

In each scenario, you are asked to choose between a fixed amount of money received for sure or winning **\$30** if the drawn ball is **Purple**.

For example, you might be asked to choose between:

\$30 if drawn ball is **Purple** O O \$15 for sure

- If you select the left option, you win **\$30 if the drawn ball is Purple and \$0 otherwise**.
- If you select the right option, you win \$15 for sure, regardless of the color of the drawn ball.

You must answer a list of questions like this. For example:

\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$11 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$12 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$13 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$14 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$15 for sure

The option on the left does not change, while the option on the right **gets better as you go down the list**.

You must make **a choice in all rows**, but for simplicity, you only have to **click once** on the row where you want to **switch from left to right**. You can modify your choice as many times as you want, and you can also select only the left or only the right.

Intuitively, you can think about how much you'd pay for the bet. Then, you switch to the sure amount as soon as it is above the amount you'd pay for the bet.

Below is an example for you to experience the interface (try to click).

\$30 if drawn ball is Purple	$\circ \circ$	\$0 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$7 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$12 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$18 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$20 for sure

Figure Screenshots-B.23: Instructions page 3.

Quiz 1

A bag contains **90 Purple** balls and **10 Green** balls.

A ball has been randomly drawn.

Which statement is correct?

O The drawn ball must be **Purple**.

O The drawn ball must be Green.

O The drawn ball can be **Purple** or **Green**

Figure Screenshots-B.24: Quiz question 1.

Quiz 2

Which do you choose?

\$5.50 for sure	$\circ \circ$	\$1 for sure
\$5.50 for sure	$\circ \circ$	\$2 for sure
\$5.50 for sure	$\circ \circ$	\$3 for sure
\$5.50 for sure	$\circ \circ$	\$4 for sure
\$5.50 for sure	$\circ \circ$	\$5 for sure
\$5.50 for sure	$\circ \circ$	\$6 for sure
\$5.50 for sure	$\circ \circ$	\$7 for sure
\$5.50 for sure	$\circ \circ$	\$8 for sure
\$5.50 for sure	$\circ \circ$	\$9 for sure
\$5.50 for sure	$\circ \circ$	\$10 for sure
\$5.50 for sure	$\circ \circ$	\$11 for sure
\$5.50 for sure	$\circ \circ$	\$12 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$13 for sure
\$5.50 for sure	$\circ \circ$	\$14 for sure
\$5.50 for sure	$\circ \circ$	\$15 for sure
\$5.50 for sure	$\circ \circ$	\$16 for sure
\$5.50 for sure	$\circ \circ$	\$17 for sure
\$5.50 for sure	$\circ \circ$	\$18 for sure
\$5.50 for sure	$\circ \circ$	\$19 for sure
\$5.50 for sure	$\circ \circ$	\$20 for sure
\$5.50 for sure	$\circ \circ$	\$21 for sure
\$5.50 for sure	$\circ \circ$	\$22 for sure
\$5.50 for sure	$\circ \circ$	\$23 for sure
\$5.50 for sure	$\circ \circ$	\$24 for sure
\$5.50 for sure	$\circ \circ$	\$25 for sure
\$5.50 for sure	$\circ \circ$	\$26 for sure
\$5.50 for sure	$\circ \circ$	\$27 for sure
\$5.50 for sure	$\circ \circ$	\$28 for sure
\$5.50 for sure	$\circ \circ$	\$29 for sure
\$5.50 for sure	$\bigcirc \bigcirc$	\$30 for sure

Figure Screenshots-B.25: Quiz question 2.

A bag contains **50 Purple** balls and **50 Green** balls.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-B.26: Risk question 1.

\$30 if drawn ball is Purple	$\circ \circ$	\$1 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$2 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$3 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$4 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$5 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$6 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$7 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$8 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$9 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$10 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$11 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$12 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$13 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$14 for sure
\$30 if drawn ball is Purple	$\bigcirc \bigcirc$	\$15 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$16 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$17 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$18 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$19 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$20 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$21 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$22 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$23 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$24 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$25 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$26 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$27 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$28 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$29 for sure
\$30 if drawn ball is Purple	$\circ \circ$	\$30 for sure

Figure Screenshots-B.27: MPL for risk questions.

A bag contains 70 Purple balls and 30 Green balls.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-B.28: Risk question 2.

A bag contains **30 Purple** balls and **70 Green** balls.

A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-B.29: Risk question 4.

A bag contains **100** balls. Each ball is either **Purple** or **Green**. You are not told the exact number of **Purple** or **Green** balls. They could be all **Purple**, all **Green**, or any combination.

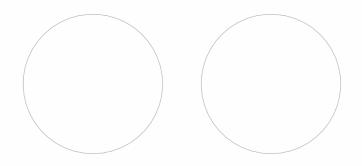
A ball has been drawn from the bag.

Which do you choose?

Figure Screenshots-B.30: Ambiguity question.

Part 2: Instructions

In Part 2, you will face 4 different scenarios. In each scenario, you will first see two empty circles, like these.



After a brief wait, the circle on the left will be populated with some dots, like this.

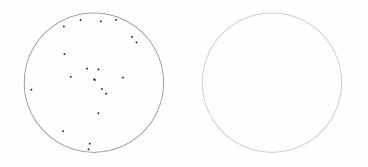
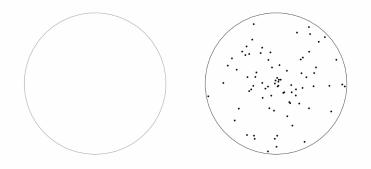


Figure Screenshots-B.31: Instructions page 4.

You will be able to see this for only a few seconds. Then, the circle on the right will be populated with some dots, like this.



Again, this will be shown to you only for a few seconds, and the screen will go back to showing only two empty circles.

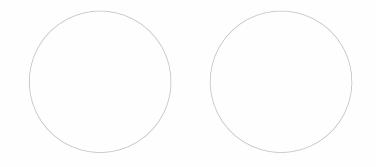


Figure Screenshots-B.32: Instructions page 5.

First, you are asked to report **which circle has more dots**: the one on the left or the one on the right. Sometimes, the choice will be easy. Other times, it will be harder.

Next, you are asked to choose between winning **\$30 if you made the correct choice** and a **fixed amount of money**. For example, you may see:



Like before, you choose between a bet and a sure amount, though the bet is different:

- If you select "\$30 if your choice is correct", you win \$30 if the circle you selected was the one with more dots and \$0 otherwise.
- If you select "\$15 for sure", you win **\$15 for sure, regardless of** whether you made the right choice.

As in Part 1, you will see a list of questions like this, and you only need to click once.

Again, you can think about how much you'd pay for the bet that you have made the right choice. Then, you switch to the sure amount as soon as it is above the amount you'd pay for the bet.

Please note:

- The circles with dots will appear soon after the question, so pay attention!
- The circles are different in every question, and whether the circle with more dots is on the left or right is randomly determined.
- The amount of time each circle is shown may vary.

Next, you will see a practice question to familiarize yourself with the interface.

Figure Screenshots-B.33: Instructions page 6.

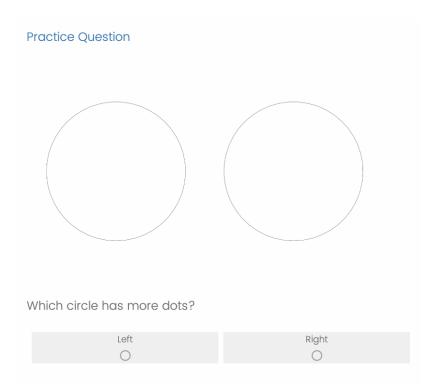


Figure Screenshots-B.34: Practice question.

Which do you choose?

\$30 if your choice is correct	$\circ \circ$	\$1 for sure
\$30 if your choice is correct	$\circ \circ$	\$2 for sure
\$30 if your choice is correct	$\circ \circ$	\$3 for sure
\$30 if your choice is correct	$\circ \circ$	\$4 for sure
\$30 if your choice is correct	$\circ \circ$	\$5 for sure
\$30 if your choice is correct	$\circ \circ$	\$6 for sure
\$30 if your choice is correct	$\circ \circ$	\$7 for sure
\$30 if your choice is correct	$\circ \circ$	\$8 for sure
\$30 if your choice is correct	$\circ \circ$	\$9 for sure
\$30 if your choice is correct	$\circ \circ$	\$10 for sure
\$30 if your choice is correct	$\circ \circ$	\$11 for sure
\$30 if your choice is correct	$\circ \circ$	\$12 for sure
\$30 if your choice is correct	$\circ \circ$	\$13 for sure
\$30 if your choice is correct	$\circ \circ$	\$14 for sure
\$30 if your choice is correct	$\circ \circ$	\$15 for sure
\$30 if your choice is correct	$\circ \circ$	\$16 for sure
\$30 if your choice is correct	$\circ \circ$	\$17 for sure
\$30 if your choice is correct	$\circ \circ$	\$18 for sure
\$30 if your choice is correct	$\circ \circ$	\$19 for sure
\$30 if your choice is correct	$\circ \circ$	\$20 for sure
\$30 if your choice is correct	$\circ \circ$	\$21 for sure
\$30 if your choice is correct	$\bigcirc \bigcirc$	\$22 for sure
\$30 if your choice is correct	$\circ \circ$	\$23 for sure
\$30 if your choice is correct	$\circ \circ$	\$24 for sure
\$30 if your choice is correct	$\circ \circ$	\$25 for sure
\$30 if your choice is correct	$\circ \circ$	\$26 for sure
\$30 if your choice is correct	$\circ \circ$	\$27 for sure
\$30 if your choice is correct	$\circ \circ$	\$28 for sure
\$30 if your choice is correct	$\circ \circ$	\$29 for sure
\$30 if your choice is correct	$\circ \circ$	\$30 for sure

Figure Screenshots-B.35: MPL for perception task.

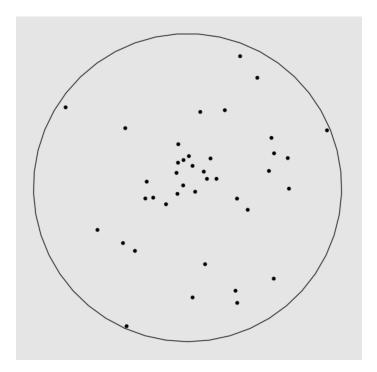


Figure Screenshots-B.36: Easy task, correct answer.

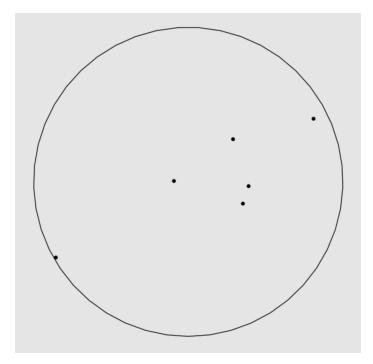


Figure Screenshots-B.37: Easy task, wrong answer.

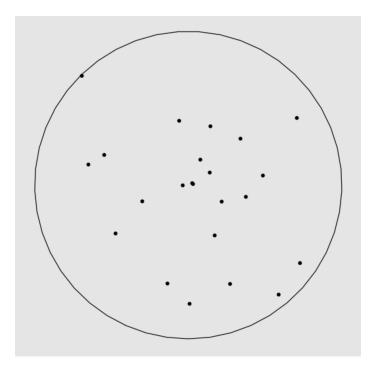


Figure Screenshots-B.38: Hard task, correct answer.

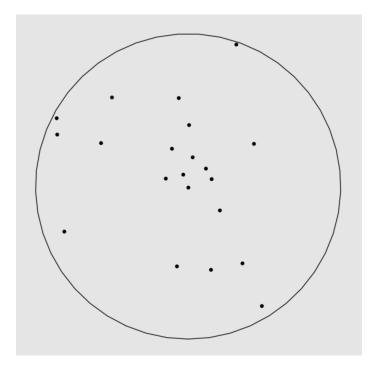


Figure Screenshots-B.39: Hard task, wrong answer.

Part 3: Instructions

In Part 3, you will face 4 different scenarios.

Like in Part 2, you will see two circles with dots, each displayed only briefly.

First, you are asked to choose which circle has more dots.

Next, you are asked how certain you are about your decision. Specifically, we are interested in **what you think is the chance** (in percent) that your answer is correct. You will report your answer on a slider as follows:

0 10 20 30 40 50 60 70 80 90 100

We are now ready to begin Part 3.

Figure Screenshots-B.40: Instructions page 7.

Which circle has more dot	:s?
Left	Right
What do you think is the cl correct?	hance (in percent) that your answer is
0 10 20 30 4	40 50 60 70 80 90 100

Figure Screenshots-B.41: Perception task with cognitive uncertainty.

3 Experiment C, Compound Lotteries

Instructions

You will get \$3 for completing the survey, and 10% of participants will be randomly selected to get an **additional bonus**. You must complete the study to receive payments.

Answering carefully is in your best interest. If you are selected for the additional bonus, one of the questions you answered will be randomly selected, and your bonus will be **your earnings in that question**.

Figure Screenshots-C.42: Instructions page 1.

Please **read these instructions carefully**. There will be a **short quiz** at the end.

You will face several scenarios. In each scenario, there are **one or more card decks** and **one card is randomly drawn.**

The cards in the decks can have different colors.

Each scenario gives you some information about the composition of the decks. For example, you may face the following:

A deck contains 50 Green cards and 50 Purple cards.

The computer shuffles the deck and then draws a card.

Or you could face the following:

There are **2 decks**. Each contains **50** cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

The decks are different in each scenario, so read carefully.

Figure Screenshots-C.43: Instructions page 2, main treatment.

Please **read these instructions carefully**. There will be a **short quiz** at the end.

You will face several scenarios. In each scenario, there are **one or more card decks** and **one card is randomly drawn.**

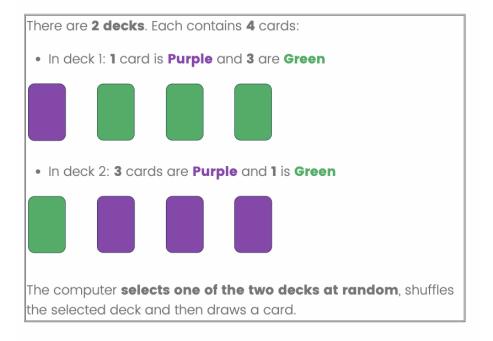
The cards in the decks can have different colors.

Each scenario gives you some information about the composition of the decks. For example, you may face the following:

A deck contains 50 Green cards and 50 Purple cards.

The computer shuffles the deck and then draws a card.

Or you could face the following:



The decks are **different** in each scenario, so read carefully.

Figure Screenshots-C.44: Instructions page 2, graphical treatment.

Please **read these instructions carefully**. There will be a **short quiz** at the end.

You will face several scenarios. In each scenario, there are **one or more card decks** and **one card is randomly drawn.**

The cards in the decks can have different colors.

Each scenario gives you some information about the composition of the decks. For example, you may face the following:

A deck contains **50 Green** cards and **50 Purple** cards.

The computer shuffles the deck and then draws a card.

Or you could face the following:

There are **2 decks**. Each contains **50** cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

The computer **combines the two decks together**, shuffles, and then draws a card.

The decks are **different** in each scenario, so read carefully.

Figure Screenshots-C.45: Instructions page 2, mirror treatment.

In some scenarios, you are asked to choose between a fixed amount of money received for sure or winning **\$30** if the drawn card is **Purple**.

For example, you might be asked to choose between:

\$30 if drawn card is **Purple** O O \$15 for sure

- If you select the left option, you win **\$30 if the drawn card is Purple and \$0 otherwise**.
- If you select the right option, you win **\$15 for sure, regardless** of the color of the drawn card.

You must answer a list of questions like this. For example:

$\circ \circ$	\$11 for sure
$\circ \circ$	\$12 for sure
$\circ \circ$	\$13 for sure
$\bigcirc \bigcirc$	\$14 for sure
$\circ \circ$	\$15 for sure
	0 0

The option on the left does not change, while the option on the right **gets better as you go down the list**.

You must make **a choice in all rows**, but for simplicity, you only have to **click once** on the row where you want to **switch from left to right**. You can modify your choice as many times as you want, and you can also select only the left or only the right.

Intuitively, you can think about how much you'd pay for the bet. Then, you switch to the sure amount as soon as it is above the amount you'd pay for the bet.

Below is an example for you to experience the interface (try to click).

\$30 if drawn card is Purple	$\circ \circ$	\$0 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$7 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$12 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$18 for sure
\$30 if drawn card is Purple	$\circ \circ$	\$20 for sure

Figure Screenshots-C.46: Instructions page 3.

Quiz 1

There are **2 decks**, each containing **50** cards:

- In deck 1: 90% of cards are Green and 10% are Purple
- In deck 2: 90% of cards are Green and 10% are Purple

The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Which statement is correct?



Figure Screenshots-C.47: Quiz question 1, main treatment.

Quiz 1
There are 2 decks . Each contains 4 cards:
In deck I: 1 card is Purple and 3 are Green
In deck 2: 3 cards are Purple and 1 is Green
The computer selects one of the two decks at random , shuffles the selected deck and then draws a card.
Which statement is correct?
O The drawn card must be Purple .
O The drawn card must be Green .
O The drawn card can be Purple or Green

Figure Screenshots-C.48: Quiz question 1, graphical treatment.

Quiz 1

There are **2 decks**, each containing **50** cards:

- In deck 1: 90% of cards are Green and 10% are Purple
- In deck 2: 90% of cards are Green and 10% are Purple

The computer **combines the two decks together**, shuffles, and then draws a card.

Which statement is correct?

- O The drawn card must be **Purple**.
- O The drawn card must be Green.
- The drawn card can be **Purple** or **Green**

Figure Screenshots-C.49: Quiz question 1, mirror treatment.

Quiz 2

Which do you choose?

\$5.50 for sure	$\circ \circ$	\$1 for sure
\$5.50 for sure	$\circ \circ$	\$2 for sure
\$5.50 for sure	$\circ \circ$	\$3 for sure
\$5.50 for sure	$\circ \circ$	\$4 for sure
\$5.50 for sure	$\circ \circ$	\$5 for sure
\$5.50 for sure	$\circ \circ$	\$6 for sure
\$5.50 for sure	$\circ \circ$	\$7 for sure
\$5.50 for sure	$\circ \circ$	\$8 for sure
\$5.50 for sure	$\circ \circ$	\$9 for sure
\$5.50 for sure	$\circ \circ$	\$10 for sure
\$5.50 for sure	$\circ \circ$	\$11 for sure
\$5.50 for sure	$\circ \circ$	\$12 for sure
\$5.50 for sure	$\circ \circ$	\$13 for sure
\$5.50 for sure	$\circ \circ$	\$14 for sure
\$5.50 for sure	$\circ \circ$	\$15 for sure
\$5.50 for sure	$\circ \circ$	\$16 for sure
\$5.50 for sure	$\circ \circ$	\$17 for sure
\$5.50 for sure	$\circ \circ$	\$18 for sure
\$5.50 for sure	$\circ \circ$	\$19 for sure
\$5.50 for sure	$\circ \circ$	\$20 for sure
\$5.50 for sure	$\circ \circ$	\$21 for sure
\$5.50 for sure	$\circ \circ$	\$22 for sure
\$5.50 for sure	$\circ \circ$	\$23 for sure
\$5.50 for sure	$\circ \circ$	\$24 for sure
\$5.50 for sure	$\circ \circ$	\$25 for sure
\$5.50 for sure	$\circ \circ$	\$26 for sure
\$5.50 for sure	$\circ \circ$	\$27 for sure
\$5.50 for sure	$\circ \circ$	\$28 for sure
\$5.50 for sure	$\circ \circ$	\$29 for sure
\$5.50 for sure	$\circ \circ$	\$30 for sure

Figure Screenshots-C.50: Quiz question 2.

A deck contains **50 Purple** cards and **50 Green** cards.

The computer shuffles the deck and then draws a card.

Which do you choose?

Figure Screenshots-C.51: Risk question 1.

\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$1 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$2 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$3 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$4 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$5 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$6 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$7 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$8 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$9 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$10 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$11 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$12 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$13 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$14 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$15 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$16 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$17 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$18 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$19 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$20 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$21 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$22 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$23 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$24 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$25 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$26 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$27 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$28 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$29 for sure
\$30 if drawn card is Purple	$\bigcirc \bigcirc$	\$30 for sure

Figure Screenshots-C.52: MPL.

A deck contains **70 Purple** cards and **30 Green** cards.

The computer shuffles the deck and then draws a card.

Which do you choose?

Figure Screenshots-C.53: Risk question 2.

A deck contains **30 Purple** cards and **70 Green** cards.

The computer shuffles the deck and then draws a card.

Which do you choose?

Figure Screenshots-C.54: Risk question 3.

A deck contains 25 Purple cards and 25 Green cards.

The computer shuffles the deck and then draws a card.

Which do you choose?

Figure Screenshots-C.55: Risk question 4.

A deck contains **100** cards. Each card is either **Purple** or **Green**. You are not told the exact number of **Purple** or **Green** cards. They could be all **Purple**, all **Green**, or any combination.

The computer shuffles the deck and then draws a card.

Which do you choose?

Figure Screenshots-C.56: Ambiguity.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 20% of cards are Purple and 80% are Green
- In deck 2: 80% of cards are Purple and 20% are Green

The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Which do you choose?

Figure Screenshots-C.57: Non-trivial compound lottery, main treatment.

There are 2 decks. Each contains 5 cards:

• In deck 1: 1 card is Purple and 4 are Green



• In deck 2: 4 cards are Purple and 1 is Green



The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Which do you choose?

Figure Screenshots-C.58: Non-trivial compound lottery, graphical treatment.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 20% of cards are Purple and 80% are Green
- In deck 2: 80% of cards are Purple and 20% are Green

The computer **combines the two decks together**, shuffles, and then draws a card.

Which do you choose?

Figure Screenshots-C.59: Non-trivial compound lottery, mirror treatment.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

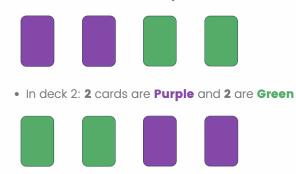
The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Which do you choose?

Figure Screenshots-C.60: Trivial compound lottery, main treatment.

There are **2 decks**. Each contains **4** cards:

• In deck 1: 2 cards are Purple and 2 are Green



The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Which do you choose?

Figure Screenshots-C.61: Trivial compound lottery, graphical treatment.

There are 2 decks. Each contains 50 cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

The computer **combines the two decks together**, shuffles, and then draws a card.

Which do you choose?

Figure Screenshots-C.62: Trivial compound lottery, mirror treatment.

A deck contains **3 cards:** one **Purple**, one **Green**, and one **Orange**. The computer shuffles the deck and draws a card:

- If the drawn card is **Purple** or **Green** it stops.
- If it is **Orange**, it discards that card and draws again from the deck.

Which do you choose?

Figure Screenshots-C.63: Draw-again compound lottery, main treatment.

A deck contains **3 cards:** one **Purple**, one **Green**, and one **Orange**.



The computer shuffles the deck and draws a card:

- If the drawn card is **Purple** or **Green** it stops.
- If it is Orange, it discards that card and draws again from the deck.

Which do you choose?

Figure Screenshots-C.64: Draw-again compound lottery, graphical treatment.

A deck contains **3 cards:** one **Purple**, one **Green**, and one **Orange**. The computer first discards the **Orange** card. Then it shuffles the deck and draws a card.

Which do you choose?

Figure Screenshots-C.65: Draw-again compound lottery, mirror treatment.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 20% of cards are Purple and 80% are Green
- In deck 2: 80% of cards are Purple and 20% are Green

The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.66: Non-trivial compound lottery with binary scoring rule, main treatment. There are **2 decks**. Each contains **5** cards:

• In deck 1: 1 card is Purple and 4 are Green



• In deck 2: 4 cards are Purple and 1 is Green



The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.67: Non-trivial compound lottery with binary scoring rule, graphical treatment.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 20% of cards are Purple and 80% are Green
- In deck 2: 80% of cards are Purple and 20% are Green

The computer **combines the two decks together**, shuffles, and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.68: Non-trivial compound lottery with binary scoring rule, mirror treatment.

How ce that th probal	e drav	/		/						nance	
Very unc	ərtain								Complete	ely certain	
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

Figure Screenshots-C.69: Cognitive Uncertainty question.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

The computer **selects one of the two decks at random**, shuffles the selected deck and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.70: Trivial compound lottery with binary scoring rule, main treatment.

There are **2 decks**. Each contains **4** cards:

• In deck 1: 2 cards are Purple and 2 are Green



• In deck 2: 2 cards are Purple and 2 are Green



The computer selects one of the two decks at random, shuffles the selected deck and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact** Chance that the drawn card is Purple. What is this Exact Chance? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.71: Trivial compound lottery with binary scoring rule, graphical treat-

ment.

There are **2 decks**. Each contains **50** cards:

- In deck 1: 50% of cards are Purple and 50% are Green
- In deck 2: 50% of cards are Purple and 50% are Green

The computer **combines the two decks together**, shuffles, and then draws a card.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.72: Trivial compound lottery with binary scoring rule, mirror treatment.

A deck contains 3 cards: one Purple , one Green , and one Orange . The computer shuffles the deck and draws a card:
 If the drawn card is Purple or Green it stops. If it is Orange, it discards that card and draws again from the deck.
Using the laws of probability, it is possible to calculate the Exact Chance that the last drawn card is Purple . What is this Exact Chance ? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.73: Draw-again compound lottery with binary scoring rule, main treatment.

A deck contains **3 cards:** one **Purple**, one **Green**, and one **Orange**.



The computer shuffles the deck and draws a card:

- If the drawn card is **Purple** or **Green** it stops.
- If it is **Orange**, it discards that card and draws again from the deck.

Using the laws of probability, it is possible to calculate the **Exact Chance** that the last drawn card is **Purple**. What is this **Exact Chance**? (in %)

[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u>.]

Figure Screenshots-C.74: Draw-again compound lottery with binary scoring rule, graphical treatment.

A deck contains 3 cards: one Purple , one Green , and one Orange . The computer first discards the Orange card. The it shuffles the deck and draws a card.	'n
Using the laws of probability, it is possible to calculate the Exac Chance that the last drawn card is Purple . What is this Exact Chance ? (in %)	t
[You can earn a \$5 bonus with your guess. Your probability of winning goes up the more accurate your answer is, using the formula explained <u>here</u> .]	
	%

Figure Screenshots-C.75: Draw-again compound lottery with binary scoring rule, mirror treatment.