Assessment due May 9, 2021 00:13 +03

Probability of cyan

1/1 point (graded)

One ball will be drawn at random from a box containing: 3 cyan balls, 5 magenta balls, and 7 yellow balls.

What is the probability that the ball will be cyan?

3/15 ✔ **Answer:** 3/15

$\frac{3}{15}$

Explanation

There are 3 + 5 + 7 = 15 total balls in the box. 3 of them are cyan, so the probabiliy that the ball will be cyan is 3/15.

Submit You have used 1 of 5 attempts

Answers are displayed within the problem

Probability of not cyan

1/1 point (graded)

One ball will be drawn at random from a box containing: 3 cyan balls, 5 magenta balls, and 7 yellow balls.

What is the probability that the ball will not be cyan?

12/15 ✔ **Answer:** 12/15

$\frac{12}{15}$

Explanation

There are 3 + 5 + 7 = 15 total balls in the box. 12 of them are not cyan, so the probabiliy that the ball will not be cyan is 12/15.

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You have used 2 of 5 attempts

Answers are displayed within the problem

Sampling without replacement

1/1 point (graded)

Instead of taking just one draw, consider taking two draws. You take the second draw without returning the first draw to the box. We call this sampling without replacement.

What is the probability that the first draw is cyan and that the second draw is not cyan?
Provide at least 3 significant digits.

0.171428571

✔ **Answer:** 0.171428571

0.171428571

Explanation

There are 3 + 5 + 7 = 15 total balls in the box. The probability of the first draw being cyan is 3/15, and the probability of the second draw (without replacement) being not cyan is 12/14 (because we have already removed one ball). So the probability of the first draw being cyan and the second draw being not cyan is 3/15 * 12/14, which is approximately 0.17.

Submit

You have used 1 of 5 attempts

Answers are displayed within the problem

Sampling with replacement

1/1 point (graded)

Now repeat the experiment, but this time, after taking the first draw and recording the color, return it back to the box and shake the box. We call this sampling with replacement.

What is the probability that the first draw is cyan and that the second draw is not cyan?

0.16

✔ **Answer:** 0.16

0.16

Explanation
There are 3 + 5 + 7 = 15 total balls in the box. The probability of the first draw being cyan is 3/15, and the probability of the second draw (with replacement) being not cyan is 12/15 (because we put the ball back in that we removed). So the probability of the first draw being cyan and the second draw being not cyan is 3/15 * 12/15, which is 0.16.

Submit You have used 1 of 5 attempts

Answers are displayed within the problem

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- Please be specific in the title and body of your post regarding which question you're asking about to facilitate answering your question.
- Posting snippets of code is okay, but posting full code solutions is not.
- If you do post snippets of code, please format it as code for readability. If you're not sure how to do this, there are instructions in a pinned post in the discussion forum.

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