

DEPENDENT EVENTS

When the outcome of one _____ impacts the _____ of another, it is a dependent event.

Read each situation below and determine if it is an independent or a dependent event.

- _____ 1. Flipping two coins results in one landing on heads and one landing on tails.
- _____ 2. The captain of the football team is selected and then the co-captain is selected.
- _____ 3. You draw a joker from a deck of cards, and then you draw an ace.
- _____ 4. You draw a queen from a deck of cards, replace it, and then draw a 10.
- _____ 5. A coin is flipped and a number cube is rolled.

**INDEPENDENT
PROBABILITY**

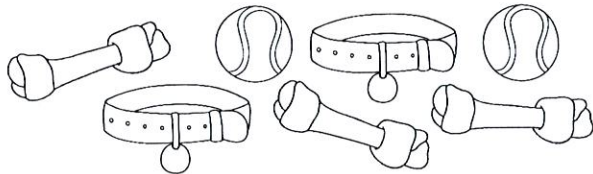
$$P(A \text{ and } B) = \underline{\hspace{2cm}} \cdot \underline{\hspace{2cm}}$$

**DEPENDENT
PROBABILITY**

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Use your understanding of independent events and dependent events to answer the questions below.

6. Neil goes to the pet shop and selects a treat for his dog. He chooses one and then chooses another. What is the probability that Neil selects a bone and then a ball?



$$\frac{\underline{\hspace{2cm}}}{\text{bone}} \cdot \frac{\underline{\hspace{2cm}}}{\text{ball}} =$$

7. Mackenzie chooses one candle and then chooses another candle. What is the probability that Mackenzie selects a polka dot candle both times?



$$\frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}} \cdot \frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}} =$$

Read each situation carefully. Determine if the events are independent or dependent and find the probability of the events occurring.

Mrs. Moore is doing laundry and has various pieces of clothing in her laundry basket.



8. What is the probability of selecting a top and then selecting a bottom?
9. What is the probability of selecting a striped sock, replacing it, and then selecting another striped sock?
10. What is the probability of selecting a towel, replacing it, and then selecting another towel?
11. What is the probability of selecting a skirt and a top one choice after another?
12. What is the probability of selecting a matching pair of solid socks one choice after another?

Summarize today's lesson:

DEPENDENT EVENTS

Use the details about the game to answer the questions below.

In a board game, students draw a number, do not replace it, and then draw a second number. Determine the probability of each event occurring.



1. Drawing an odd number, then drawing a 6	2. Drawing a 2, then drawing another 2	3. Drawing a number divisible by 3, then drawing a 1
4. Drawing a 1, then drawing a 6	5. Drawing a prime number, then drawing a composite number	6. Drawing a 9, then drawing another 9
7. Drawing a 9, then drawing a number divisible by 1	8. Drawing an even number, then drawing 1	9. Drawing a 6, then drawing an odd number

Choose the best answer below for question 10.

10. Harmony places the letters in the word DECEMBER into a bag. A letter will be randomly selected and not replaced. Then another letter will be selected. What is the probability of Harmony selecting a C and then an E?

- A. $\frac{4}{8}$ B. $\frac{3}{56}$
C. $\frac{6}{64}$ D. $\frac{1}{8}$

PROBABILITY OF INDEPENDENT AND DEPENDENT EVENTS SOL 8.12

<p>A dice is rolled three times. The first roll is event A, the second roll event B, and the third event C. List below if the events are Independent or Dependent:</p> <p>Event A:</p> <p>Event B:</p> <p>Event C:</p>	<p>You have a bag of 50 jelly beans. 15 are green. What is the probability of pulling out a color other than green? <i>Write your answer as a percent</i></p>	<p>Each spinner below is spun once. What is the probability that the result will be a three or a consonant? <i>Write your answer as a fraction in lowest terms</i></p> <div style="text-align: center;"> </div>
<p>A box contains 6 yellow, 2 black and 4 green pencils. What is the probability of pulling two green pencils (without replacement)? Then graph your answer on the number line.</p> <div style="text-align: center;"> </div>	<p>A box holds a white button, a brown button and a black button. What is the probability of picking a white button then without replacing it, picking a brown button on the second pick? <i>Write your answer as a decimal</i></p>	<p>You have a 30% chance of pulling a red gummy bear out of a bag. What is the probability you will not pull a red on your first pull (and replace it) and your second pull? <i>Write your answer as a decimal</i></p>
<p>What is the probability that the spinner will land on a 5 and then a 1? <i>Write your answer as a percent</i></p> <div style="text-align: center;"> </div>	<p>When rolling two number cubes simultaneously, what is the probability of rolling a 1 on one cube and a 6 on the other? <i>Write your answer as a fraction in lowest terms.</i></p>	<p>You throw a number cube three times. What is the probability that you roll an odd number all three times? <i>Write your answer as a decimal</i></p>