Unit: Probability

Name Answers

Date _____ Pd_____

DEPENDENT EVENTS

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

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

I 1. Flipping two coins results in one landing on heads and one landing on tails.

D 2. The captain of the football team is selected and then the co-captain is selected.

D 3. You draw a joker from a deck of cards, and then you draw an ace.

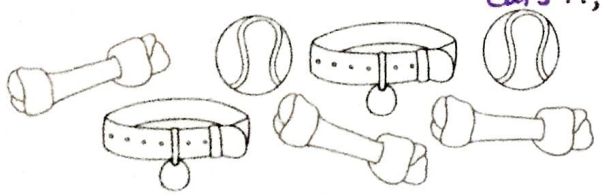
I 4. You draw a queen from a deck of cards, replace it, and then draw a 10.

I 5. A coin is flipped and a number cube is rolled.

INDEPENDENT PROBABILITY	P(A and B) = P(A) × P(B)
DEPENDENT PROBABILITY	P(A and B) = P(A) • P(B, after A)

Determine the probability of the events below.

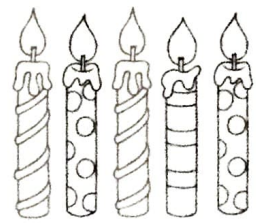
6. Neil goes to the pet shop and selects a treat for his dog. He chooses one, and then chooses another. What is the probability that Neil selects a bone and then a ball? the dog eats it,



$\frac{3}{7}$ (bone) • $\frac{2}{6}$ (ball) = $\frac{6}{42} = \frac{1}{7}$

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

$\frac{2}{5} \times \frac{1}{4_2} = \frac{1}{10}$



_____ • _____ =

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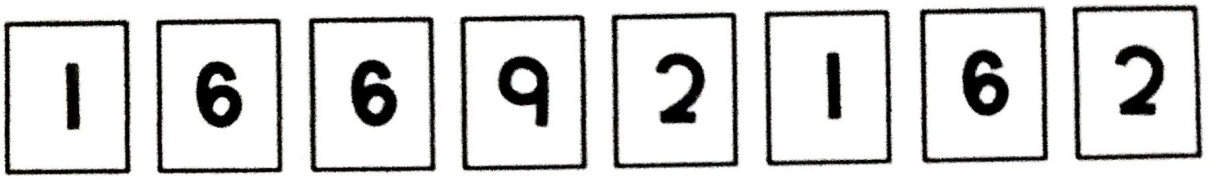
DEPENDENT EVENTS

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.



8

1. Drawing an odd number, then drawing a 6

$\frac{3}{8} \times \frac{3}{7} = \boxed{\frac{9}{56}}$

2. Drawing a 2, then drawing another 2

$\frac{1}{4}\frac{2}{8} \times \frac{1}{7} = \boxed{\frac{1}{28}}$

3. Drawing a number divisible by 3, then drawing a 1

$\frac{1}{2}\frac{3}{8} \times \frac{2}{7} = \boxed{\frac{1}{7}}$

4. Drawing a 1, then drawing a 6

$\frac{1}{4}\frac{2}{8} \times \frac{3}{7} = \boxed{\frac{3}{28}}$

5. Drawing a prime number, then drawing a composite number

$\frac{2}{8} \times \frac{4}{7} = \boxed{\frac{1}{7}}$

6. Drawing a 9, then drawing another 9

$\frac{1}{8} \times \frac{0}{7} = \boxed{0}$

7. Drawing a 9, then drawing a number divisible by 1

$\frac{1}{8} \times \frac{9}{9} = \boxed{\frac{1}{8}}$

8. Drawing an even number, then drawing 1

$\frac{5}{4}\frac{}{8} \times \frac{2}{7} = \frac{5}{28}$

9. Drawing a 6, then drawing an odd number

$\frac{3}{8} \times \frac{3}{7} = \boxed{\frac{9}{56}}$

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?

8 letters

C

$\frac{1}{8} \times \frac{3}{7} = \frac{3}{56}$

A. $\frac{4}{8}$

B. $\frac{3}{56}$

C. $\frac{6}{64}$

D. $\frac{1}{8}$