



Student Name: _____
Student Instructions: Complete all of the questions below.

Test ID: 146205518090420
Description: Digital Learning Probability

1. Deena and Jackson tossed 2 coins at the same time. In 5 tosses, Deena got heads on both coins 3 times. In 50 tosses, Jackson got heads on both coins 12 times. What does this illustrate about theoretical and experimental probability that both tossed coins will be heads?

- A. Smaller groups give more accurate results.
- B. Larger groups have greater chance for error.
- C. Experimental probability is not affected by sample size.
- D. Experimental probability approaches theoretical probability when the sample size is large.

2. If A and B are independent events such that $P(A) = \frac{2}{5}$ and $P(B) = \frac{1}{3}$, what is **P(A and B)**?

A. $\frac{2}{15}$

B. $\frac{3}{8}$

C. $\frac{1}{4}$

D. $\frac{2}{5}$

3. If a coin is flipped three times what is the probability of getting tails all three times?

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

B. $\frac{1}{6}$

C. $\frac{1}{2}$

D. $\frac{3}{4}$

4. The probability of reaching into a drawer without looking and selecting a black sock is $\frac{5}{6}$. If there are a total of 24 socks in the drawer, how many socks in the drawer are black?

A. 4

B. 6

C. 15

D. 20

5. The numbered tiles below were placed inside a bag.



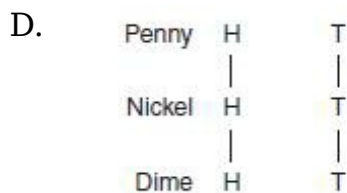
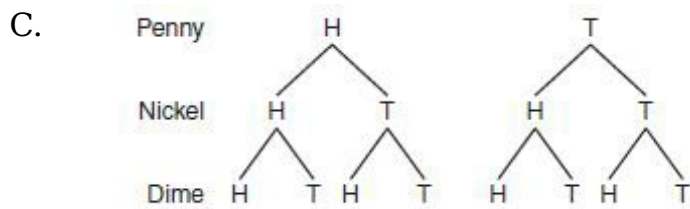
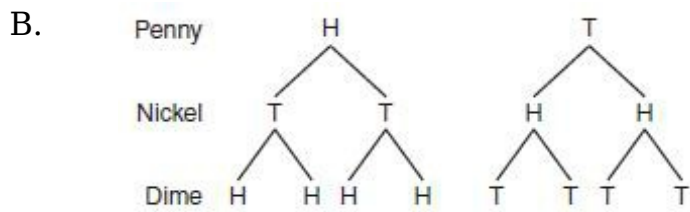
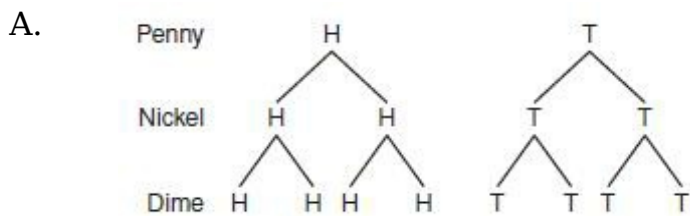
What is the probability of selecting an even number from the bag?

- A. $1/2$
 - B. $1/6$
 - C. $1/4$
 - D. $1/8$
6. If an event is certain, then its probability is
- A. 1
 - B. 0.5
 - C. 0.75
 - D. 0
7. Finn is doing a probability experiment. He is tossing a coin and spinning a spinner with 4 equal sections numbered 1 through 4. How many possible outcomes are there?
- A. 2 outcomes
 - B. 4 outcomes
 - C. 6 outcomes
 - D. 8 outcomes

8. Jonathon spins a spinner that has the numbers 1 to 8. Which outcome is impossible?

- A. landing on a 5
- B. landing on an even number
- C. landing on a number that is 8 or less
- D. landing on a number greater than 10

9. 1) Mia tossed a penny, a nickel, and a dime. Which is a complete tree diagram for all possible outcomes, where H represents heads and T represents tails?



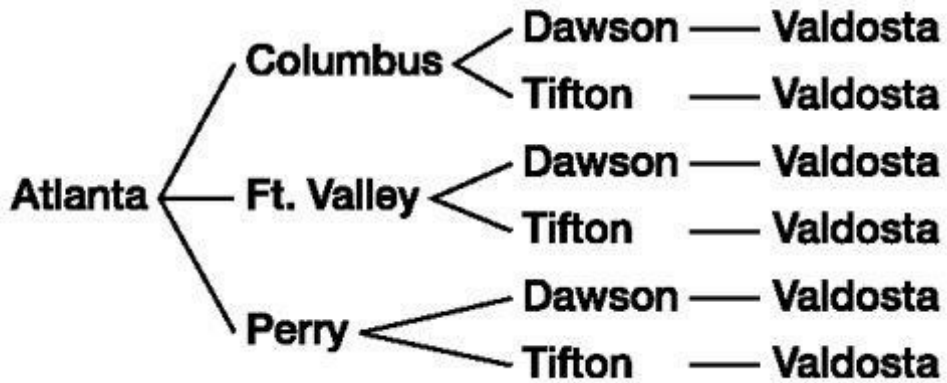
10. A student flips a coin 10 times and gets heads 4 times. Which of the following is a true statement:

- A. The experimental and the theoretical probability are the same
- B. The experimental probability is greater than the theoretical probability
- C. The experimental probability is less than the theoretical probability
- D. Impossible to tell due to the limited number of trials
- E. Incomplete

11. Sara is playing a board game. The probability that Sara will score a point on her next turn is $\frac{1}{3}$. Which statement describes the probability that Sara will score a point on her next turn?

- A. likely
- B. certain
- C. unlikely
- D. impossible

12. b) The following tree diagram shows several routes for traveling from Atlanta to Valdosta. According to the tree diagram, how many different routes are possible?



- A. 1
- B. 3
- C. 4
- D. 6

13. Cameron has a bag of 50 gumdrops. There are 15 peach, 20 strawberry, 5 cherry, and 10 watermelon. Without looking, he picks a gumdrop, looks at it and puts it back, then chooses another without looking. What is the probability he will choose strawberry both times?

A. $\frac{19}{125}$

B. $\frac{38}{245}$

C. $\frac{4}{25}$

D. $\frac{4}{5}$

14. Mya practiced her penalty kicks with her brother as the goalie. The table shows the results of Mya's attempts.

Penalty Kick Attempts

Result	Frequency
Goal	22
Goalie Save	8
Missed Wide	6
Overshot Goal	4

Based on this data, how many goals can Mya expect to score if she takes 200 penalty kicks?

- A. 90
 - B. 100
 - C. 110
 - D. 120
15. Probability can be expressed as a number between _____.
- A. 0 and $\frac{1}{2}$
 - B. 0 and 1
 - C. 0 and 10
 - D. 0 and 100%

- 16.** Jared has a spinner with equally sized sections labeled A, B, and C. He spun the spinner 15 times, with the following results.
C, B, B, C, A, C, B, C, C, A, B, C, B, C, C
Based on the results of this experiment, about how many times can Jared expect the spinner to land on C in an experiment of 300 spins?

- A. 100
- B. 130
- C. 160
- D. 240

- 17.** A bag contains 2 blue marbles, 3 green marbles, 1 white marble and 4 red marbles. What is the probability of selecting a red marble? Your answer should be in simplified form.

- A. $\frac{2}{5}$
- B. 30%
- C. $\frac{3}{5}$
- D. 0.20

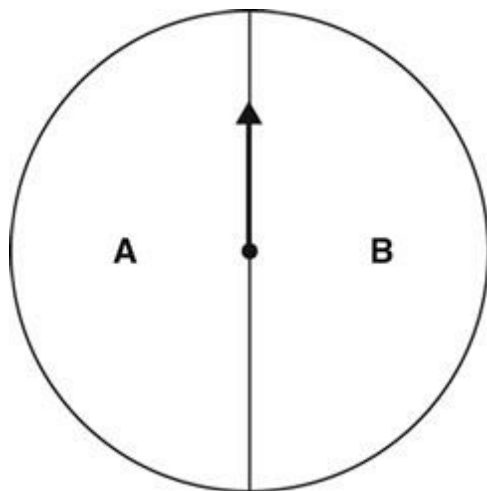
- 18.** For # 9 and 10, Bailey tossed a coin 10 times. The results were 7 heads and 3 tails.

What is the experimental probability of tossing tails?

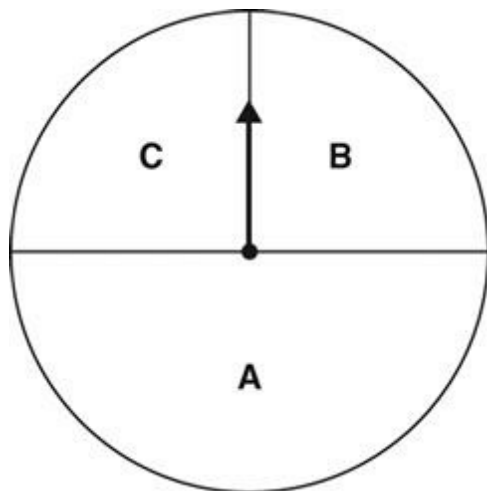
- A. $\frac{1}{3}$
- B. $\frac{3}{10}$
- C. $\frac{3}{7}$
- D. $\frac{1}{2}$

19. Which spinner is twice as likely to land on Region A as on Region B?

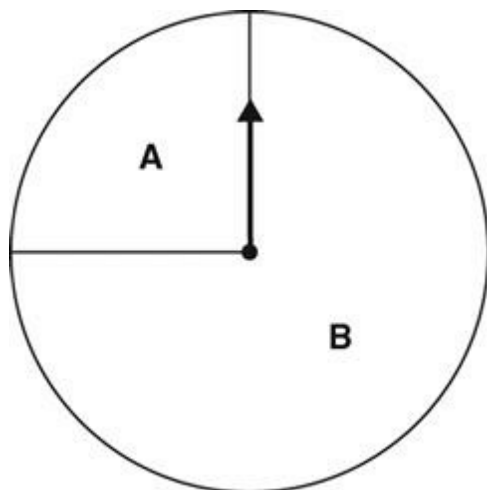
A.



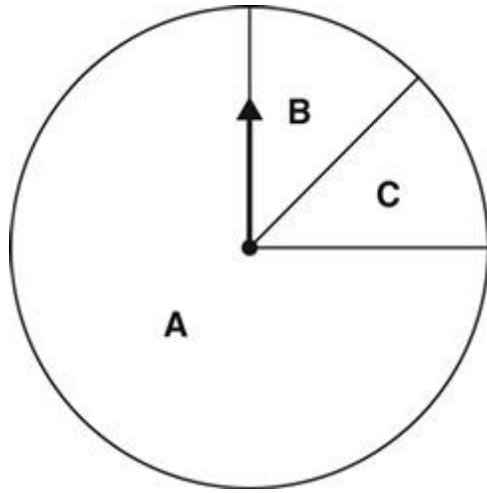
B.



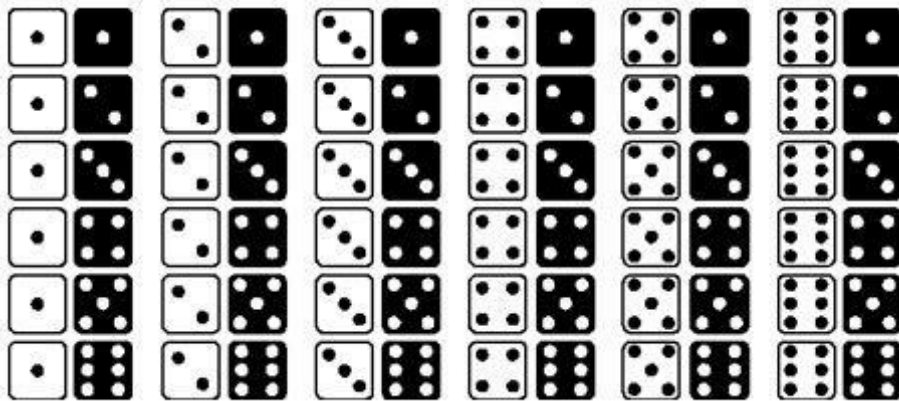
C.



D.



20. Sarah rolls two 6-sided numbered cubes. What is the probability that the two numbers added together will equal 4?



- A. $\frac{1}{12}$
- B. $\frac{1}{4}$
- C. $\frac{1}{5}$
- D. $\frac{3}{10}$