Study Island 7th Grade Math - Understanding Probability

Question 1 .

Which of the following is a true statement?

○ **A.** A probability near 1 indicates an unlikely event.

○ **B.** A probability near 0 indicates a likely event.

○ **C.** A probability near $\frac{1}{2}$ indicates an unlikely event.

○ **D.** A probability near 1 indicates a likely event.

Question 2 .

Two experiments are defined below. An event is defined for each of the experiments.

Experiment I: Elena spins the spinner shown in the image.
Event A: The arrow is on the red quarter of the spinner when it stops spinning.
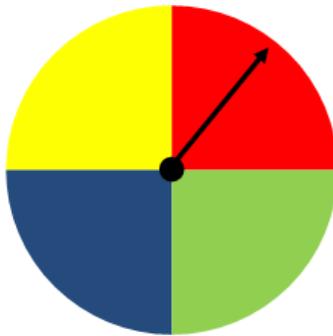
Experiment II: Sam flips a fair coin twice.
Event B: The coin lands on tails the first flip, and the coin lands on heads the second flip.

Which statement about Event A and Event B is true?

○ **A.** It is not possible to determine which event is more likely to occur.

○ **B.** Event A is more likely to occur than Event B.

○ **C.** Event A is less likely to occur than Event B.

○ **D.** Both events are equally likely to occur.

Question 3 .

The probability of randomly selecting a green marble from a bag of 20 marbles is $\frac{1}{20}$. Which of the following describes the likelihood of selecting a green marble?

○ **A.** likely

○ **B.** unlikely

○ **C.** neither unlikely nor likely

Question 4 .

Richard is playing a game where he draws one playing card each out of two stacks of four cards. The image below shows all possible products for the two numbers on the cards.

Product of Two Cards

		Value of Card 2			
		1	2	5	9
Value of Card 1	4	4	8	20	36
	3	3	6	15	27
	1	1	2	5	9
	7	7	14	35	63

Is Richard more likely to draw two cards with a product that is an even number or two cards with a product that is a single digit?

- **A.** Richard is more likely to draw two cards with a product that is a single digit, because $\frac{11}{16} > \frac{7}{16}$.

- **B.** Richard is more likely to draw two cards with a product that is an even number, because $\frac{9}{16} > \frac{7}{16}$.

- **C.** Richard is more likely to draw two cards with a product that is a single digit, because $\frac{9}{16} > \frac{7}{16}$.

- **D.** Richard is equally likely to draw two cards with a product that is an even number, or a product that is a single number, because $\frac{9}{16} = \frac{9}{16}$.

Question 5 .

Directions: Drag the tiles to the correct boxes to complete the pairs. Not all tiles will be used.

Match each event with its likelihood of occurrence.

| an event that is certain | an event that is likely | an event that is equally likely as unlikely |

| an event that is impossible | an event that is unlikely |

Randomly selecting a vowel in the word, "RAISED" →

Randomly selecting an odd number in the set {3, 5, 7, 11, 13} →

Randomly selecting "drums" in the list, "guitar, piano, cello, flute" →

Randomly selecting a boy in a list of 21 boys and 12 girls →

Question 6 .

Fiona has a box full of art supplies. The probability of randomly picking up a paint brush is 0.5.

Which of the following describes the likelihood of picking a paint brush?

○ **A.** unlikely

○ **B.** neither unlikely nor likely

○ **C.** likely

Question 7 .

Two experiments are defined below. An event is defined for each of the experiments.

Experiment I: Lisa randomly picks a tile from the set shown in the image.
Event A: Lisa picks an M or a Q.
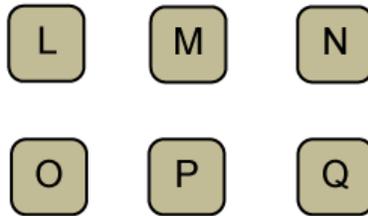
Experiment II: Josh spins the spinner shown in the image.
Event B: The arrow is on a green or red sector of the spinner when it stops spinning.
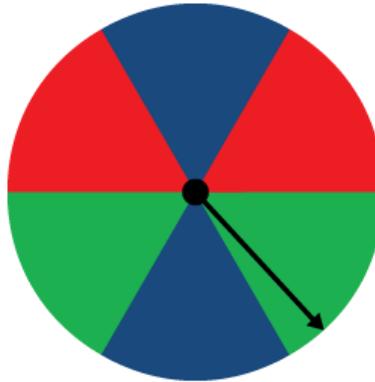
Which statement about Event A and Event B is true?

○ **A.**   Event A is more likely to occur than Event B.

○ **B.**   Event A is less likely to occur than Event B.

○ **C.**   It is not possible to determine which event is more likely.

○ **D.**   Both events are equally likely to occur.

Question 8 .

Raymond has a bag full of old coins. The probability of randomly picking up a coin with an eagle on one side is 0.12.

Which of the following describes the likelihood of picking a coin with an eagle on one side?

○ **A.**   likely

○ **B.**   neither unlikely nor likely

○ **C.**   unlikely

Question 9 .

Travis performed an experiment in which he spun a spinner multiple times. The sections of the spinner are red, orange, yellow, green, and blue. The results of his experiment are shown below.

Spinner Result	Frequency
red	10
orange	15
yellow	8
green	20
blue	7

Based on the experiment above, which of the following statements is true?

○ **A.** It is twice as likely for the next spin to land on green as opposed to red.

○ **B.** It is less likely for the next spin to land on red as opposed to yellow.

○ **C.** It is equally likely for the next spin to land on yellow or blue.

○ **D.** It is more likely for the next spin to land on orange as opposed to green.

Question 10 .

The probability of randomly selecting a white flower from a garden that has green, pink, yellow, and white flowers is 6%.

Which of the following describes the likelihood of selecting a white flower?

○ **A.** likely

○ **B.** unlikely

○ **C.** neither unlikely nor likely