

Grade 7 - Probability and Probability Models - Quiz

Common Core 7.SP.C.5, 7.SP.C.6, 7.SP.C.7 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Answer all 10 multiple-choice questions on the likelihood scale from 0 to 1, relative frequency, theoretical probability, and uniform and non-uniform probability models. Pick the single best answer, then read the explanation to see why it is right and which common mistake each wrong choice shows. A score of 8 or more means you are ready for the test.

Grade 7 · Common Core State Standards: **7.SP.C.5, 7.SP.C.6, 7.SP.C.7**

Questions

Question 1

Which value could NOT be a probability?

- A. 0
- B. 1.2
- C. $\frac{1}{2}$
- D. 0.99

Question 2

Marbles

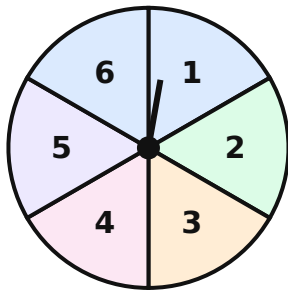
3 red	7 blue
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A bag has 3 red and 7 blue marbles. What is

P(red)?

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

Question 3



A fair die is rolled. What is $P(\text{number greater than } 4)$?

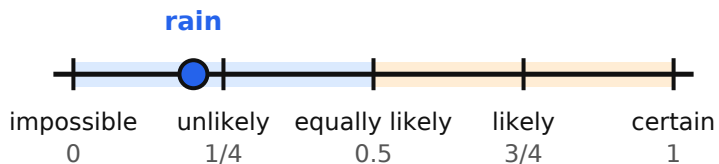
- A. $\frac{1}{6}$
- B. $\frac{1}{3}$
- C. $\frac{2}{3}$
- D. $\frac{5}{6}$

Question 4

A spinner lands on blue 14 times in 40 spins. The relative frequency of blue is:

- A. 0.35
- B. 0.14
- C. 2.86
- D. 0.26

Question 5



The probability of rain is 0.2. What is the probability that it does not rain?

- A. 0.8
- B. 0.2
- C. $0\frac{2}{1}$
- D. 1.2

Question 6

A model has probabilities 0.3, 0.45, and x . What is x ?

- A. 0.75
- B. 0.15
- C. 0.25
- D. 0.35

Question 7

A fair coin is tossed 100 times. About how many tails do you expect?

- A. 100
- B. 25
- C. 10
- D. 50

Question 8

Which event is most likely?

- A. Probability 0.9
- B. Probability 0.5
- C. Probability 0.1
- D. Probability 0

Question 9

Marbles	4 green	6 yellow
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A bag has 4 green marbles and 6 yellow

marbles. Which describes $P(\text{green})$?

- A. Impossible
- B. Unlikely but possible
- C. Certain
- D. Likely

Question 10

After 10 tosses a coin shows 7 heads. What best explains the difference from 5 heads?

- A. The coin must be unfair
- B. Probability changed
- C. Chance variation in a small number of trials
- D. Tails must come next

Answers

1. **B** - Probabilities are between 0 and 1, so 1.2 is impossible.
2. **B** - $3 \div 10$. The total includes all marbles.
3. **D** - 5 and 6 are greater than 4: $\frac{2}{6} = \frac{1}{3}$.
4. **A** - $14 \div 40 = 0.35$.
5. **A** - $1 - 0.2 = 0.8$.
6. **C** - $1 - 0.3 - 0.45 = 0.25$.
7. **D** - Tails has probability $1/2$, so about 50.
8. **A** - A probability closer to 1 means more likely.
9. **B** - $P(\text{green}) = \frac{4}{10} = 0.4$, which is a bit less than one half.
10. **C** - With few trials, results vary. More tosses would be closer to 0.5.

Remember

- Probability is between 0 (impossible) and 1 (certain).
- Equally likely outcomes: $P = \text{favorable} \div \text{total}$.
- Relative frequency = number of times the outcome happens $\div$ number of trials.
- The probabilities of all outcomes in a model add up to 1.
- $P(\text{not } A) = 1 - P(A)$.