Probability Basics Worksheet

Grade 7 · Common Core 7.SP.C.5

> Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

Practice

Builds the skill step by step.

1. A probability of 0 means the event is:
   A. certain
   B. likely
   C. as likely as not
   D. impossible

2. Which probability describes an event that is certain?
   A. 0
   B. $\frac{1}{2}$
   C. 1
   D. 0.9

3. A bag has 3 red marbles and 5 blue marbles. One is drawn at random. What is the probability it is red?

4. Which word best describes a probability of 0.85?
   A. Unlikely
   B. Impossible
   C. Certain
   D. Likely

5. A fair number cube (1 to 6) is rolled. What is the probability of rolling a 4?

6. Which event is as likely as not?

   A. Rolling a 7 on a number cube

   B. A fair coin landing on heads

   C. The sun rising tomorrow

   D. Drawing a red card from a stack of all blue cards

7. A spinner has 10 equal sections, and 7 are green. What is the probability of landing on green, as a decimal?

8. Event A has probability 0.4, event B has probability $\frac{3}{4}$ and event C has probability 10%. Which order goes from least likely to most likely?

   A. A, B, C

   B. C, A, B

   C. B, A, C

   D. C, B, A

9. A bag has 4 yellow, 6 green and 10 purple tiles. What is the probability of drawing a purple tile?

10. Which number can NOT be a probability?

    A. 0

    B. 1.2

    C. 0.5

    D. $\frac{7}{8}$

ALBERT

Name _____ Date _____

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On Level

Grade-level practice.

1. A jar has 5 red, 3 green and 2 white beads. One is drawn at random. What is the probability it is NOT red?

2. The chance of rain tomorrow is 30%. Which word describes rain tomorrow?

   A. Likely

   B. Certain

   C. Unlikely

   D. Impossible

3. The probability that an event happens is $\frac{2}{5}$. What is the probability that it does not happen?

4. A letter is chosen at random from the word MATHEMATICS. What is the probability that it is M?

5. A spinner has 4 equal sections: red, blue, green and yellow. Which event has a probability of $\frac{3}{4}$?

   A. Not landing on red

   B. Landing on red

   C. Landing on red or blue

   D. Landing on purple

6. A class has 12 boys and 18 girls. One student is picked at random. What is the probability it is a boy, as a percent?

7. Event A has a probability of $\frac{5}{8}$. Event B has a probability of 0.6. Which is more likely?

   A. Event B

   B. They are equally likely.

   C. Event A

   D. There is not enough information.

8. A whole number from 1 to 20 is chosen at random. What is the probability that it is a multiple of 4?

9. A bag holds only red and blue chips. The probability of drawing red is 0.35. What is the probability of drawing blue?

10. Which describes the probability of rolling a number less than 7 on a standard number cube?

    A. Likely

    B. Certain

    C. Unlikely

    D. Impossible

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Challenge

Multi-step and word problems that stretch it.

1. A bag has 6 red marbles and some blue marbles. The probability of drawing red is $\frac{2}{5}$. How many blue marbles are there?

2. Which is more likely: rolling an even number on a number cube, or drawing a heart from a standard 52-card deck?

   A. Drawing a heart

   B. Rolling an even number

   C. They are equally likely.

   D. Neither can happen.

3. A spinner has 8 equal sections numbered 1 to 8. What is the probability of landing on a prime number?

4. A bag has 4 red, 6 blue and x green marbles. The probability of drawing green is $\frac{1}{3}$. Find x.

5. Jo says a lottery ticket either wins or loses, so the probability of winning is $\frac{1}{2}$. Why is she wrong?

   A. There are more than two outcomes.

   B. Probabilities can't be fractions.

   C. She is right.

   D. The two outcomes are not equally likely.

6. A bag has 10 tiles numbered 1 to 10. What is the probability of drawing a number greater than 7, as a decimal?

7. A bag has 40 balls. The probability of drawing a green ball is 0.15. How many balls are green?

8. An event has a probability of 0.02. Which describes it?

   A. Impossible

   B. Likely

   C. Very unlikely, but possible

   D. As likely as not

9. A standard deck has 52 cards, with 13 in each of 4 suits. What is the probability of drawing a card that is NOT a club?

10. A box has 3 times as many white balls as black balls. What is the probability of drawing a black ball?