

Lesson 1.2 Calculating Probability

Probability can also be thought of as the ratio of desired outcome(s) to the sample space. It can be expressed as a ratio, fraction, decimal, or percent.

When tossing a coin, what is the probability that it will land on heads?

desired outcome: heads sample space: heads, tails probability: 1:2, $\frac{1}{2}$, 50%, 0.5

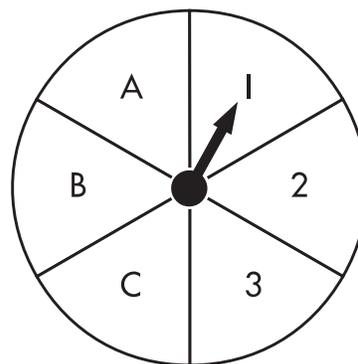
Find the probability. Write answers as fractions in simplest form.

A box contains 3 red pencils, 4 blue pencils, 2 green pencils, and 1 regular pencil. If you take 1 pencil without looking, what is the probability of picking each of the following?

1. a red pencil $\frac{3}{10}$
2. a blue pencil $\frac{4}{10}$
3. a green pencil $\frac{2}{10}$
4. a regular pencil $\frac{1}{10}$

If you spin the spinner shown at the right, what is the probability of the spinner stopping on each of the following?

5. a letter $\frac{1}{10}$
6. an odd number $\frac{3}{10}$
7. an even number $\frac{6}{10}$
8. a vowel $\frac{1}{10}$
9. the number 3 $\frac{1}{10}$
10. a consonant $\frac{3}{10}$



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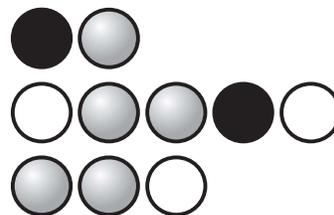
Determine the probability for each of the following events. Write answers as fractions in simplest form.

1. drawing a gray marble $\frac{1}{2}$

2. drawing a white marble $\frac{3}{10}$

3. drawing a black marble $\frac{1}{5}$

4. drawing either a gray or a black marble $\frac{7}{10}$



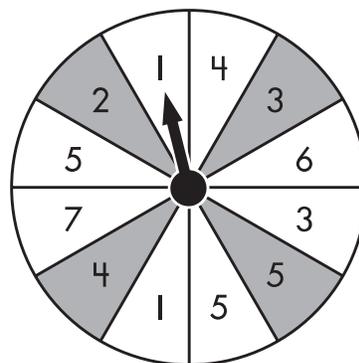
5. spinning a gray section $\frac{1}{3}$

6. spinning a 4 $\frac{1}{6}$

7. spinning a 1 $\frac{1}{6}$

8. spinning either a 4 or 5 $\frac{5}{12}$

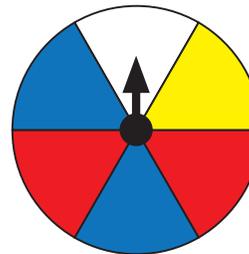
9. spinning an even number $\frac{1}{3}$



10. spinning a red section $\frac{2}{6}$

11. spinning a blue section $\frac{3}{6}$

12. spinning a yellow section $\frac{1}{6}$



A jar contains 25 pennies, 20 nickels, and 15 dimes. If someone picks one coin without looking, what are the chances that they will pick the following:

13. penny $\frac{5}{12}$

14. nickel $\frac{1}{3}$

15. dime $\frac{1}{4}$