

Study the following.

odds (odz) – a ratio of successes to failures. Odds are shown as two numbers with the word “to” or a colon “:” between them. (The odds were 2 to 5 that he would pick a red marble.) (The odds were 7 : 15 that he would pick a green candy.)

probability (prob-uh-**bil**-uh-tee) – a ratio of successes to total outcomes. Probability is shown as a fraction or a decimal. (The probability of picking a blue marble is $\frac{3}{10}$ or .3.)

Say each word out loud and write it in the blank.

odds _____
probability _____

Write each definition in your own words.

odds

probability

Write two sentences using each word.

odds

1.

2.

probability

1.

2.

Fill in the blanks.

1. The ratio of successes to total outcomes is called _____.

2. The ratio of successes to failures is called _____.

Study the following.

Examples: There is a bowl with 5 red candies and 3 green candies.

If you pick one, what is the probability it will be a red candy?

$$\text{Probability} = \frac{\text{successes}}{\text{total outcomes}} = \frac{5}{8}$$

If you pick one, what is the odds it will be a red candy?

$$\text{Odds} = \text{successes to failures} = 5 \text{ to } 3$$

This answer could also be written as 5 : 3

Answer the following questions.

You have a bowl of marbles with 4 yellow, 6 green, and 3 blue.

1. What is the probability of picking a yellow marble? _____
2. What are the odds of picking a yellow marble? _____
3. What is the probability of picking a green marble? _____
4. What are the odds of picking a green marble? _____
5. What is the probability of picking a blue marble? _____
6. What are the odds of picking a blue marble? _____
7. What is the probability of picking a yellow or blue marble? _____
8. What are the odds of picking a yellow or blue marble? _____
9. What is the probability of picking a black marble? _____
10. What is the probability of picking a yellow, green or blue marble? _____