

# PROBABILITY

## What Is Probability?

- Probability is the chance that a particular event will occur.
- There are four different ways to show the probability:
  - One way is to show the **certainty**: certain, likely, somewhat likely, not likely, impossible
  - The other three ways are **with numbers**. These include the number of chances with the total number of occurrences. If the probability of an event happening is 3 out of 5, it could also be written like this: 3:5 or  $3/5$ .

## How to figure out probability:

- The probability of an event occurring is how likely it is to happen.

For example

You have a bag of marbles with 3 red, 4 blue, and 5 green. What is the probability you will choose an orange marble? Since there are no orange marbles in the bag, the probability would be **impossible**.

What would be the probability of choosing a red marble?

Since there are only red, blue, and green marbles in the bag, the probability would be **certain**.

- The probability that an event will occur is the number of chances there are out of the total number of occurrences.

For example:

You have a bag of marbles with 3 red, 4 blue, and 5 green.

What is the probability you will choose an orange marble?

Again, since there are no orange marbles in the bag, the probability would be **0 out of 12**.

What is the probability of choosing a red marble?

Since there are 3 red marbles and there are 12 marbles all together, the probability of choosing a red marble from the bag would be **3 out of 12** or 3:12 or  $3/12$ .



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## Try This!

Find the probability of the following.

If a number cube has the numbers 1 through 6 on it, what is the probability an even number will be rolled?

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A box of crayons has 2 blue, 5 green, 3 yellow, and 5 red crayons in it. What is the probability of choosing a green crayon?

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