

Lesson 15.5 Percent of Increase and Decrease

Key Idea

Percents of Increase and Decrease

When the original amount increases, the percent of change is called a **percent of increase**.

$$\text{percent of increase} = \frac{\text{new amount} - \text{original amount}}{\text{original amount}}$$

When the original amount decreases, the percent of change is called a **percent of decrease**.

$$\text{percent of decrease} = \frac{\text{original amount} - \text{new amount}}{\text{original amount}}$$

Example 1

The table shows the numbers of hours you spent online last weekend. What is the percent of change in your online time from Saturday to Sunday?

Day	Hours Online
Saturday	2
Sunday	4.5

On Your Own

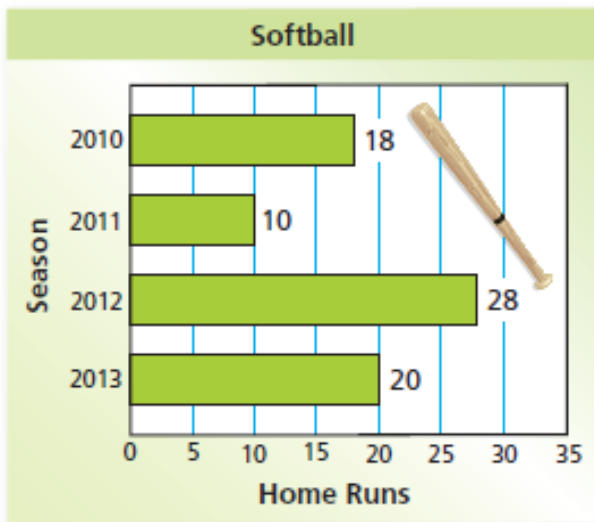
Find the percent of change. Round to the nearest tenth of a percent if necessary.

1. 10 inches to 25 inches

2. 57 people to 65 people

Example 2

The bar graph shows a softball player's home run totals. What was the percent of change from 2012 to 2013?



 **Key Idea****Percent Error**

A **percent error** is the percent that an estimated quantity differs from the actual amount.

$$\text{percent error} = \frac{\text{amount of error}}{\text{actual amount}}$$

Example 3

You estimate that the length of your classroom is 16 feet. The actual length is 21 feet. Find the percent error.

On Your Own

3. In Example 2, what was the percent of change from 2010 to 2011?

4. **WHAT IF?** In Example 3, your friend estimates that the length of the classroom is 23 feet. Who has the greater percent error? Explain.