

6.6 Percent of Change

p. 352 4-25-18

A percent can be used to describe an amount of change. The **percent of change** is the amount, stated as a percent, that a number increases or decreases. If the amount goes up, it is a **percent of increase**. If the amount goes down, it is a **percent of decrease**.

You can find the percent of change by using the following formula.

$$\text{Percent of change} = \frac{\text{amount of change}}{\text{original amount}}$$

Apr 11-10:15 AM

Apr 11-10:23 AM

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

65 is decreased to 38.

$$65 - 38 = 27$$

Find the amount of change

$$\text{percent of change} = \frac{27}{65}$$

Substitute values into formula.

$$\approx 0.4153846$$

Divide.

$$\approx 41.5\%$$

Write as a percent. Round.

The percent of decrease is about 41.5%.

Helpful Hint

decrease

When a number is decreased, subtract the new amount from the original amount to find the amount of change.

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

41 is increased to 92.

$$92 - 41 = 51$$

Find the amount of change.

$$\text{Percent of change} = \frac{51}{41}$$

Substitute values into formula.

$$\approx 1.2439$$

Divide.

$$\approx 124.4\%$$

Write as a percent. Round.

The percent of increase is about 124.4%

Helpful Hint

increase

When a number is increased, subtract the original amount from the new amount.

Apr 11-10:23 AM

Apr 11-10:23 AM

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

70 is decreased to 45.

$$70 - 45 = 25$$

$$\frac{25}{70} = 0.357$$

35.7% decrease

Apr 11-10:23 AM

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

37 is increased to 56.

$$56 - 37 = 19$$

$$\frac{19}{37} = 0.5135$$

51.4% increase

Apr 11-10:23 AM

When you know the percent of change, you can use an equation to find the actual amount of change.

The regular price of a bicycle helmet is \$42.99. It is on sale for 20% off. What is the sales price?

$$20\% \text{ of } 42.99$$

$$.20 \cdot 42.99$$

$$\text{disc. } 8.598 \approx \$8.60$$

$$42.99 - 8.60 = \$34.39$$

$$\begin{array}{r} 100 \\ -20 \\ \hline 80 \end{array}$$

$$80\% \text{ of } 42.99$$

$$.80 \cdot 42.99$$

$$\$34.39$$

Apr 11-10:23 AM

Apr 11-10:24 AM

The regular price of a computer game is \$49.88. It is on sale for 15% off. What is the sales price?

$$\begin{array}{r} 100 \\ - 15 \\ \hline 85 \end{array} \quad .85 \cdot 49.88 = \$42.40$$

Apr 11-10:24 AM

A boutique buys hand-painted T-shirts for \$12.60 each and sells them at a 110% increase in price. What is the retail price of the T-shirts?

$$12.60 \cdot 1.10 = 13.86$$

$$\begin{array}{r} 13.86 \\ + 12.60 \\ \hline \$26.46 \end{array}$$

Apr 11-10:24 AM

William makes T-shirts for \$7.00 each and sells them after a price increase of 125%. What is the retail price of the T-shirts?

$$1.25 \cdot 7 = 8.75$$

$$\begin{array}{r} 8.75 \\ + 7.00 \\ \hline \$15.75 \end{array}$$

Apr 11-10:25 AM

Find each percent of change.

1. 10 is increased to 12. $12 - 10 = 2$ $\frac{2}{10} = .2$ 20%
2. 25 is increased to 45.
3. 10 is decreased to 1.
4. The regular price of a coat is \$120. It is on sale for 25% off. What is the sale price? $120 \cdot .75 = \$90$
5. A backpack that sells for \$42 is on sale for 25% off. Find the sale price.

May 23-9:14 AM