6.6 Percent of Change

p. 352 4-25-18

Apr 11-10:15 AM

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 11-10:23 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.*

≈ 0.4153846 *Divide.*

$\approx 41.5\%$ *Write as a percent. Round.*

The percent of decrease is about 41.5%.

Helpful Hint

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

Apr 11-10:23 AM

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.*

≈ 1.2439 *Divide.*

$\approx 124.4\%$ *Write as a percent. Round.*

The percent of increase is about 124.4%

Helpful Hint

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

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.

$70 - 45 = 25$

$\frac{25}{70} = 0.35714285$

35.7%

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.

$56 - 37 = 19$

$\frac{19}{37} = 0.513513513$

51.4%

Apr 11-10:23 AM

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

Apr 11-10:23 AM

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

$42.99 \cdot 0.2 = \$8.598$

$\$8.60$

$\begin{array}{r} 42.99 \\ -\ 8.60 \\ \hline \$34.39 \end{array}$

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?

$49.88 \cdot 0.15 = 7.482$

$\$7.48$

$\begin{array}{r} 49.88 \\ -\ 7.48 \\ \hline 42.40 \end{array}$

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?

$12.60 \cdot 1.1 = 13.86$

$\begin{array}{r} {\scriptstyle 1} \\ 12.60 \\ +13.86 \\ \hline \$26.46 \end{array}$

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?

$7.00 \cdot 1.25 = 8.75$

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

Apr 11-10:25 AM

Find each percent of change.

1. 10 is increased to 12. $\frac{2}{10} = .2$ 20% inc.

2. 25 is increased to 45. $\frac{20}{25} = .8$ 80% inc.

3. 10 is decreased to 1. $\frac{9}{10} = 90\%$ decrease

4. The regular price of a coat is $120. It is on sale for 25% off. What is the sale price?

$120 \cdot .25 = \$30 = \$90$

5. A backpack that sells for $42 is on sale for 25% off. Find the sale price.

$42 \cdot .25 = 10.50$ $\$31.50$

May 23-9:14 AM