

Percent of Change

The **percent of change** is the ratio of the amount of change to the original amount. When an amount increases, the percent of change is a **percent of increase**. When the amount decreases, the percent of change is negative. You can also state a negative percent of change as a **percent of decrease**.

Finding Percent of Change

Subtract (new – old) to find the amount of change. Then compare the amount of change to the original amount using the percent equation $P = R \cdot B$. Solve for R .

EXAMPLES

- A** What is the percent of change from 30 to 24?

$$\begin{aligned} \text{Amount of change} &= \text{new} - \text{old} \\ &= 24 - 30 \text{ or } -6 \end{aligned}$$

$$P = R \cdot B \rightarrow -6 = R \cdot 30$$

$$\frac{-6}{30} = R$$

$$0.2 = R$$

The percent of change is -20% .

The percent of decrease is 20% .

- B** What is the percent of change from 8 to 10?

$$\begin{aligned} \text{Amount of change} &= \text{new} - \text{old} \\ &= 10 - 8 \text{ or } 2 \end{aligned}$$

$$P = R \cdot B \rightarrow 2 = R \cdot 8$$

$$\frac{2}{8} = R$$

$$0.25 = R$$

The percent of change is 25% .

The percent of increase is 25% .

PRACTICE

State whether each percent of change is a percent of increase or a percent of decrease. Then find the percent of increase or decrease. Round to the nearest whole percent.

- old: 2 rabbits
new: 13 rabbits
- old: 125 people
new: 90 people
- old: 10 minutes
new: 25 minutes
- old: 1000 widgets
new: 540 widgets
- old: \$5,000
new: \$4,700
- old: 140 pounds
new: 155 pounds
- old: 15 centimeters
new: 17 centimeters
- old: \$32.99
new: \$23.09
- old: \$1250
new: \$1310
- Safety** If a manufacturer reduces the number of on-the-job accidents from an average of 20 a month to an average of 6 a month, what is the percent of decrease in accidents?



- 11. Standardized Test Practice** If the price of gas increases from \$1.01 per gallon to \$1.21 per gallon, what is the percent of increase?

A 19%

B 20%

C 21%

D 22%