

Lesson 5 Percent of Change

A **percent of change** is a ratio that compares the change in quantity to the original amount. If the original quantity is increased, it is a **percent of increase**. If the original quantity is decreased, it is a **percent of decrease**.

Example 1

Last year, 2,376 people attended the rodeo. This year, attendance was 2,950. What was the percent of change in attendance to the nearest whole percent?

Since this year's attendance is greater than last year's attendance, this is a percent of increase.

The amount of change is $2,950 - 2,376$ or 574.

$$\begin{aligned}\text{percent of change} &= \frac{\text{amount of increase}}{\text{original amount}} \\ &= \frac{574}{2,376} \\ &\approx 0.24 \text{ or } 24\%\end{aligned}$$

Substitution
Simplify.

The percent of increase is about 24%.

① FIND THE DIFFERENCE (SUBTRACT)
 $2950 - 2376 = 574$

② DIVIDE THE DIFFERENCE BY THE STARTING AMOUNT.
 $\frac{574}{2376} = 24.1 \approx 24\%$
24% INCREASE

Example 2

Che's grade on the first math exam was 94. His grade on the second math exam was 86. What was the percent of change in Che's grade to the nearest whole percent?

Since the second grade is less than the first grade, this is a percent of decrease. The amount of change is $94 - 86$ or 8.

$$\begin{aligned}\text{percent of change} &= \frac{\text{amount of decrease}}{\text{original amount}} \\ &= \frac{8}{94} \\ &\approx 0.09 \text{ or } 9\%\end{aligned}$$

Substitution
Simplify.

The percent of decrease is 9%.

① FIND THE DIFFERENCE
 $94 - 86 = 8$

② DIVIDE THE DIFFERENCE BY THE STARTING AMOUNT.
 $\frac{8}{94} = 0.0851 \approx 0.09$
9% DECREASE

Exercises

Find each percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an *increase* or *decrease*.

1. original: 4
new: 5

① $5 - 4 = 1$

② $\frac{1}{4} = 0.25$

25% INCREASE

2. original: 1.0
new: 1.3

① $1.3 - 1.0 = 0.3$

② $\frac{0.3}{1.0} = 0.3$

30% INCREASE

3. original: 15
new: 12

4. original: \$30
new: \$18

Lesson 5 Skills Practice

Percent of Change

Find each percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an *increase* or *decrease*.

1. original: 35
new: 70

2. original: 8
new: 12

3. original: 45
new: 30

7. original: \$30
new: \$110

8. original: 35
new: 28

9. original: \$12.50
new: \$15

13. original: \$210
new: \$105

14. original: 84
new: 111

15. original: \$84
new: \$100

19. original: \$465.50
new: \$350

20. original: \$87.05
new: \$100

21. original: 144
new: 108