

## WORKSHEET 2.18: FINDING THE PERCENT OF INCREASE OR DECREASE

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Use the proportions that follow to find the percent of increase or decrease.

### Percent of Increase

$$\frac{n}{100} = \frac{\text{amount of increase}}{\text{original amount}}$$

### Percent of Decrease

$$\frac{n}{100} = \frac{\text{amount of decrease}}{\text{original amount}}$$

### EXAMPLE

A student had an average of 76 in math class for the first marking period. After improving his study habits, his average rose to 86 for the second marking period. Find the percent of increase. Round your answer to the nearest percent.

$$\begin{aligned}\frac{n}{100} &= \frac{10}{76} \\ 1000 &= 76n \\ n &\approx 13\%\end{aligned}$$

**DIRECTIONS:** Find the percent of increase or decrease. Round your answers to the nearest percent.

1. A pair of jeans that originally sold for \$59.99 was on sale for \$45.99.
2. The price of a school lunch went from \$1.98 to \$2.20.
3. Marie ran a five-kilometer race in 32.5 minutes. The next year she ran the same race in 29.1 minutes.
4. A home that listed for \$359,000 eventually sold for \$329,000.



**CHALLENGE:** Working part-time at a local ice-cream shop, Mike earned \$64 per week. Working part-time at the same shop, Juan earned \$80 per week. The manager decided to give both of them a raise of \$5 per week. Did they both receive the same percent of increase? Explain your answer.

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**DIRECTIONS:** Find the percent of increase or decrease. Round your answers to the nearest percent.

1. A pair of jeans that originally sold for \$59.99 was on sale for \$45.99.

23% decrease

2. The price of a school lunch went from \$1.98 to \$2.20.

11% increase

3. Marie ran a five-kilometer race in 32.5 minutes. The next year she ran the same race in 29.1 minutes.

10% decrease

4. A home that listed for \$359,000 eventually sold for \$329,000.

8% decrease



**CHALLENGE:** Working part-time at a local ice-cream shop, Mike earned \$64 per week. Working part-time at the same shop, Juan earned \$80 per week. The manager decided to give both of them a raise of \$5 per week. Did they both receive the same percent of increase? Explain your answer.

No. Mike received about an 8% increase while Juan received about a 6% increase.