

# Find the Percent of Decrease

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Printed: December 11, 2023 (PST)



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# 3.7 Find the Percent of Decrease

FlexBooks 2.0 > VUB Math > Find the Percent of Decrease

Last Modified: Aug 23, 2023



[Figure 1]

Manny is looking to buy a new pair of sneakers. He really wants a designer pair, but they usually cost \$165.00. Today, Manny walks past a store and notices that the shows he wants are on sale for \$115.50. What is the percent of the decrease?

In this concept, you will learn to find the percent of decrease.

## Percent of Decrease

When you have an **amount** decreasing, you can always calculate the percent of decrease. The **percent of decrease** is the percent that a value decreases. To find the percent of decrease, **divide** the amount of decrease by the original amount and multiply by 100. In other words:

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

Let's look at an example where there is a percent of decrease.

A helicopter's altitude went from 350 feet to 38 feet. This was a **difference** of 312 feet. By what percent did the altitude decrease?

Use the formula to find the percent of decrease.

$$\begin{aligned} \text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{312}{350} \times 100 \\ \text{percent of decrease} &= 89.14\% \end{aligned}$$

The answer is 89.14%.

The helicopter has a percent of decrease in altitude by 89.14%.

## Examples

### Example 1

Earlier, you were given a problem about Manny's search for shoes.

The original price of the sneakers was \$165 but Manny finds them on sale for \$115.50. Manny wants to figure out the percent of the decrease.

First, find the difference.

$$165 - 115.5 = 49.5$$

Next, use the formula to find the percent of decrease.

$$\begin{aligned} \text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{49.5}{165} \times 100 \\ \text{percent of decrease} &= 30\% \end{aligned}$$

The answer is 30%.

Therefore, the sneakers are on sale 30% off.

### Example 2

What is the percent of decrease from 2500 to 400?

First, find the difference.

$$2500 - 400 = 2100$$

Next, use the formula to find the percent of decrease.

$$\begin{aligned}\text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{2100}{2500} \times 100 \\ \text{percent of decrease} &= 84\%\end{aligned}$$

The answer is 84%.

### Example 3

Find each percent of decrease from 80 to 30.

First, find the difference.

$$80 - 30 = 50$$

Next, use the formula to find the percent of decrease.

$$\begin{aligned}\text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{50}{80} \times 100 \\ \text{percent of decrease} &= 62.5\%\end{aligned}$$

The answer is 62.5%.

### Example 4

Find each percent of decrease from 90 to 40.

First, find the difference.

$$90 - 40 = 50$$

Next, use the formula to find the percent of decrease.

$$\begin{aligned} \text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{50}{90} \times 100 \\ \text{percent of decrease} &= 55.6\% \end{aligned}$$

The answer is 55.6%.

### Example 5

Find each percent of decrease from 130 to 100.

First, find the difference.

$$130 - 100 = 30$$

Next, use the formula to find the percent of decrease.

$$\begin{aligned} \text{percent of decrease} &= \frac{\text{amount of decrease}}{\text{original amount}} \times 100 \\ \text{percent of decrease} &= \frac{30}{130} \times 100 \\ \text{percent of decrease} &= 23.1\% \end{aligned}$$

The answer is 23.1%.

### Review

Calculate the percent of decrease. You may round to the nearest whole percent.

1. From 74 to 35, a decrease of 39
2. From 576 to 476, a decrease of 100
3. From 200 to 175, a decrease of 25
4. From 150 to 100, a decrease of 50
5. From 325 to 290, a decrease of 35
6. From 45 to 18, a decrease of 27
7. From 19 to 1, a decrease of 18
8. From 22 to 10
9. From 34 to 20

10. From 230 to 220
11. From 350 to 250
12. From 700 to 350
13. From 130 to 7
14. From 890 to 700

## Review (Answers)

To see the review answers, return to the [Table of Contents](#) and select 'Other Versions' or 'Resources'.

## Resources

**Example: Percent of Change**

Your favorite shoes that are normally \$80 are marked down to \$65. What is the percent of change?

$$\% \text{ of change} = \left( \frac{65 - 80}{80} \right) 100\%$$


ending amount - beginning amount  
beginning amount × 100%

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