

ANSWERS

Date: _____

Block: _____

Percent of Change Guided Notes

Percent of Change-

percent decrease -

percent increase -

To find the percent of change

the percent by which a number increases or decreases

a percent change describing a decrease in a quantity

the percent change describing an increase in a quantity

1. Find the amount of increase by subtracting the lesser number from the greater. (change)
2. Identify the original quantity.
3. Use the formula below to plug in your numbers.

$$\frac{\text{change}}{\text{original}} = \text{decimal} \times 100 = \%$$

Examples

1. The temperature increased from 60°F to 75°F . Find the percent of increase.

$$\frac{\text{Ch.}}{\text{Orig.}} = \frac{75-60}{60} = \frac{15}{60} = 0.25 = 25\% \text{ increase}$$

2. Mr. Theiry's homeroom recorded the total number of books read per month. In November they read 65 books, and in December they read 52 books. What was the approximate percent decrease from November to December?

$$\frac{\text{Ch.}}{\text{Orig.}} = \frac{65-52}{65} = \frac{13}{65} = 0.2 = 20\% \text{ decrease}$$

3. Leon's social studies average in the first quarter was an 96. In the second quarter, his average was 80. What was the percent decrease in his social studies' grade?

$$\frac{\text{Ch.}}{\text{Orig.}} = \frac{96-80}{96} = \frac{16}{96} = 0.166... = 16.6\% \text{ decrease}$$

$$\frac{\text{Change}}{\text{Original}} = \text{decimal} \times 100 = \%$$

GETTING STARTED

<p>1. Membership increased from 80 to 100.</p> $\frac{100-80}{80} = \frac{20}{80} = 0.25$ <p>= 25% increase</p>	<p>2. Savings increased from \$500 to \$750</p> $\frac{750-500}{500} = \frac{250}{500} = 0.5$ <p>= 50% increase</p>	<p>3. Enrollment reduced from 1000 to 950.</p> $\frac{1,000-950}{1,000} = \frac{50}{1000}$ <p>= 0.05 = 5% decrease</p>
<p>4. Price increased from \$20 to \$23.</p> $\frac{23-20}{20} = \frac{3}{20} = 0.15$ <p>= 15% increase</p>	<p>5. Sale price decreased from \$22 to \$17.</p> $\frac{22-17}{22} = \frac{5}{22} \approx 0.22727$ <p>= 22.72% decrease</p>	<p>6. Temperature decreased from 75°F to 60°F.</p> $\frac{75-60}{75} = \frac{15}{75} = 0.2$ <p>= 20% decrease</p>

HEATING UP

1. One month, the price of gas was \$1.44. The next month the price of gas was \$2.40.

What was the approximate percent of increase from one month, to the next?

$$\frac{2.40 - 1.44}{1.44} = \frac{0.96}{1.44} = 0.6\bar{6} = 66.6\% \text{ increase}$$

2. Last year, Kenia got a 350 on her 6th Grade Math EOG. This year Kenia earned a 399, which was a high enough score to make a Level 4.

What was the percent of increase in Kenia's score?

$$\frac{399 - 350}{350} = \frac{49}{350} = 0.14 = 14\% \text{ increase}$$

3. Converse's price for a new pair of "Chuck Taylor's" is \$65. If it costs Converse \$45 to manufacture its sneaker, what is the approximate markup in the price of the shoe?

$$\frac{65 - 45}{45} = \frac{20}{45} = 0.4\bar{4} = 44.4\% \text{ increase}$$

4. In 1935, there were 15,295 banks in the United States. In 2003, there were 9,182 banks. What is the percent of change?

$$\frac{15,295 - 9,182}{15,295} = \frac{6,113}{15,295} = 0.39967\ldots = 39.9\% \text{ or } 40\% \text{ decrease}$$

KNOCK OUT ROUND

1. Price increased from \$10 to \$12.

$$\frac{12 - 10}{10} = \frac{2}{10} = 0.2 = 20\% \text{ increase}$$

2. Temperature increased from 25° to 45°.

$$\frac{45 - 25}{25} = \frac{20}{25} = 0.8 = 80\% \text{ increase}$$

3. Credit card bill is decreased from \$1500 to \$1000.

$$\frac{1,500 - 1,000}{1,500} = \frac{500}{1,500} = 0.\bar{3} = 33.3\% \text{ decrease}$$

4. The original price of a mountain bike was \$325. On sale, it was \$276.25. What is the percent of reduction for this sale?

$$\frac{325 - 276.25}{325} = \frac{48.75}{325} = 0.15 = 15\% \text{ decrease}$$

5. 566 students attended Vance High School in 1994. In 2010, 825 students attended Vance High School. What is the percent of increase?

$$\frac{825 - 566}{566} = \frac{259}{566} = 0.45759\ldots = 45.8 \text{ or } 46\% \text{ increase}$$

