

NAME _____

HW # 5

Show all work. Round all percents to the nearest whole.

1. In 2010, 125 hot-air balloons participated in the Acme Balloon Fiesta. In 2011, 206 hot-air balloons participated. By what percent did the number of balloons increase from 2010 to 2011?

$$\text{diff} = \% \cdot \text{original}$$

$$\frac{81}{125} = \frac{n\% \cdot 125}{125} \quad 0.648 = n\%$$

65%

2. David moved from a house that is 89 miles away from his workplace to a house that is 51 miles away from his workplace. What is the percent decrease in the distance from his home to his workplace?

$$\text{diff} = \% \cdot \text{orig}$$

$$\frac{38}{89} = \frac{n\% \cdot 89}{89} \quad 0.42696... = n\%$$

43%

3. The grizzly bear population in Yellowstone National Park in 1970 was about 270. Over the next 35 years, the population increased by about 115%. What was the population in 2005?

$$\text{diff} = \% \cdot \text{orig}$$

$$n = (1.15)(270)$$

$$n = 310.5$$

INCREASE
270 + 310.5
581 bears

4. A piece of property decreased in value by 15%. If the property was worth \$189,000, what is the value of the property now?

$$\text{diff} = \% \cdot \text{orig}$$

$$n = 15\% \cdot 189000$$

$$n = (0.15)(189000)$$

$$n = 28350$$

DECREASE
189000 - 28350
\$160650

5. The price of gasoline rose from \$2.78 to \$3.34 in one week. What was the percent of increase in the price of gasoline?

$$\text{diff} = \% \cdot \text{orig}$$

$$\frac{0.56}{2.78} = \frac{n\% \cdot 2.78}{2.78}$$

$$0.2014 = n\%$$

20%

6. A TV has an original price of \$499. Find the new price after the given percent change.

a. 10% increase $n = (0.10)(499)$ $n = 49.90$

b. 30% decrease $n = (0.3)(499)$ $n = 149.70$

INCREASE: $499 + 49.90 = \mathbf{\$548.90}$

DECREASE: $499 - 149.70 = \mathbf{\$349.30}$

7. A person's salary is decreased by 20% due to poor performance. After improving his work, the person's salary increased by 20%. Is the person's salary back to the original amount? Explain.

Hint: Make up a salary (such as \$100) and calculate the changes in salary.

$$\text{diff} = \% \cdot \text{orig}$$

$$n = (0.20)(100)$$

$$n = 20$$

DECREASE: $100 - 20 = \mathbf{\$80}$

$$\text{diff} = \% \cdot \text{orig}$$

$$n = (0.20)(80)$$

$$n = 16$$

INCREASE: $80 + 16 = \mathbf{\$96}$

No it is not the same b/c they lost 20% of \$100 and only gained 20% of \$80