

Notes - Percent of Change and Error

Percent of Change and Percent Error

Percent of Change - The percent that a number increases or decreases

(Can be a % Increase or a % Decrease)

To Find Percent of Change...

$$\frac{\text{Bigger Number} - \text{Smaller Number}}{\text{Original Number}} \times 100$$

Find the Percent of Change:

65 is decreased to 38

$$\frac{65 - 38}{65} \times 100 = 41.5\% \text{ decrease}$$

Find the Percent of Change:

41 is increased to 92

$$\frac{92 - 41}{41} \times 100 = 124.4\% \text{ increase}$$

Find the Percent of Change:

24 to 44

$$\frac{44 - 24}{24} \times 100 = 83.3\% \text{ increase}$$

In a given year, Apex had a total of 7.5 inches of rain from January - March and 22.5 inches from April - June. Find the percent of change in the rainfall.

$$\frac{22.5 - 7.5}{7.5} \times 100 =$$

$$200\% \text{ increase}$$



Notes - Percent of Change and Error

In 20 years, the average cost of a gallon of gasoline increased from \$0.88 to \$2.06. Find the percent of change.

$$\frac{2.06 - 0.88}{0.88} \times 100 =$$

134.1 %
increase



Percent Error - The percent that an estimate is off from the actual number.

To Find Percent Error:

$$\frac{\text{Bigger Number} - \text{Smaller Number}}{\text{Actual Number}} \times 100$$

Find the percent error:

Estimate: 85 Actual: 82

$$\frac{85 - 82}{82} \times 100 =$$

3.6 %

Find the percent error:

Estimate: 3400 Actual: 3519

$$\frac{3519 - 3400}{3400} \times 100 = 3.5 \%$$

A student calculates the density of a rock to be 3.2 g/ml and the actual value is 4.7 g/ml. What is the student's percent error?

$$\frac{4.7 - 3.2}{4.7} \times 100 =$$

31.9 %



A student made a mistake when measuring the volume of a graduated cylinder. He found the volume to be 65 milliliters, however the real value 50 milliliters. What is the percent error?

$$\frac{65 - 50}{50} \times 100 =$$

30 %

