

## Math 7H - Unit 4

## Day 5 - Percent Error

## Lesson Objectives:

- I can use proportional relationships to find the percent error between two amounts.

The percent error is a ratio that compares the inaccuracy of an estimate, or amount of error, to the actual amount.

$$\frac{\text{estimated value} - \text{correct value}}{\text{correct value}}$$

Suppose you guess there are 300 gum balls in a jar, but there are actually 400. Find the percent error.

$$\frac{300 - 400}{400} = \frac{-100}{400} = -0.25 \quad \text{(-25\%)}$$

A student measures the volume of a 2.50 liter container to be 2.38 liters.

$$\frac{2.38 - 2.50}{2.50} = \frac{-0.12}{2.50} = -0.048 \quad \text{(-4.8\%)}$$



You estimate that there are 90 jelly beans in a jar when there are actually 130. Find your percentage error.



$$\frac{90 - 130}{130} = \frac{-40}{130} = -30.8\%$$

The mass of a rock was measured by a student and determined to be 325 grams. The mass of the rock was then measured by the entire class. The class average value was 320 grams. Calculate the percent error in the first student's measurement of the rock's mass.

$$\frac{325 - 320}{320} = \frac{5}{320} = 1.6\%$$

The experimental value of gravity is found to be 10.07 m/s<sup>2</sup>. The accepted value of "g" is 9.81 m/s<sup>2</sup>.



$$\frac{10.07 - 9.81}{9.81} = 2.7\%$$

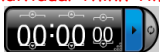
The odometer estimation of the distance from Raleigh to Wilmington is found to be 132.8 miles. The accepted straight line distance between the two is 119 miles.

$$\frac{132.8 - 119}{119} = 11.6\%$$

## Homework

## Percent Error WKS

## \* Individual Think Time \*



## What to do if you get stuck...

- Reread the problem. Did you write it down correctly?
- Reread your notes. Is there a problem similar that we did together in class?
- Find a problem similar in your book. Try this one to see if it helps.
- Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

