**PERCENT ERROR WORKSHEET**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the questions below. Show all work, ROUND TO THE NEAREST HUNDREDTH, and express all answers as a PERCENT.

$$Percent error \left(\%\right)= \frac{|your answer-accepted value|}{accepted value} ×100$$

1.  Joshua uses his thermometer and finds the boiling point of ethyl alcohol to be 75o C.  He looks in a reference book and finds that the actual boiling point of ethyl alcohol is 80oC.  What is his percent error?

2.  Ariel weighed an object on her balance and recorded a mass of 24.3 grams. Her teacher told her that there was obviously something wrong with her balance because it was giving her a reading which was too high. The teacher’s key recorded the mass as 32.1 grams.  What Ariel’s percent error?

3.  Chase got a lab report back with a grade of .75 written in red on it.  He had though his lab grade would have been .95.  What was Chase’s percent error in determining his own grade properly?

4.  The density of water at 4oC is known to be 1.000 g/mL.  Kayla experimentally found the density of water to be 1.075 g/mL.  What is her percent error?

5.  The Handbook of Chemistry and Physics lists the density of a certain liquid to be 0.7988 g/mL.  Taylor experimentally finds this liquid to have a density of 0.7925 g/mL.  What was Taylor’s percent error?

6.  An object has a mass of 35.0 grams.  On Anthony’s balance, it weighs 34.85 grams.  What is the percent error of his balance?

7.  Shelby measured the volume of a cylinder and determined it to be 54.5 cm3. The teacher told her that it should have been 37.2 cm3 too high in her determination of the volume.  What was her percent error?

8.  Walter is planning a hiking trip and he estimated the gradient of trail to be 213.6 ft/mile. After hiking and tracking the trail, he found that the trail was actually 202.7 ft/mile. What was his percent error? Did he overestimate or underestimate the gradient?

9.  To win in a qualifying round in a duck race, a duck’s rate of change needs to be 35.4 meters/second. Kate was training her duck at a rate of change of 33.9 meters/second. What was Kate’s percent error? Does she need to train her duck at a higher or lower rate of change?

10. You must complete the next 2 questions (one on this page, one on the next) to receive credit for this project. Come up with **2** of your own percent error questions. Write the word problem in the given space, then show how you would solve your question.