

Name: _____ Period: _____ Date: _____

Accuracy, Precision, and % Error Practice Worksheet

Directions: Answer each of the following questions.

- 1) You are given a block of metal that has a 'known' mass of 110.2 grams. You measure its mass three times and get the following mass readings: 100.2 g, 100.1 g 100.3g.
 - a. What was your average mass?
 - b. What was the range of your data?
 - c. Which is better, the accuracy or the precision of your measurements?
 - d. What is your percent error?

- 2) Consider the following data for the length of an object as measured by three students. The length is known to be 14.54 cm. Circle the letter of the conclusion which summarizes the data shown in the table below.

Student	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
A	14.8	14.1	14.5	14.6	14.2
B	14.8	14.2	14.6	14.5	14.8
C	14.6	14.5	14.5	14.4	14.6

 - a. Student C has done the most precise and accurate work.
 - b. Student B has done the most precise work and student C the most accurate work.
 - c. Student C has done the most precise work and student B the most accurate work.
 - d. Student C has done the most precise work and student A the most accurate work.
 - e. Student A has done the most precise work and student C the most accurate work.

- 3) While working in the laboratory, a student finds the density of a piece of aluminum to be 2.85 g/cm^3 . The accepted value for the density of aluminum is 2.6999 g/cm^3 . What is the student's percent error?

- 4) A student experimentally determines the specific heat of water to be $4.29 \text{ J/g}^\circ\text{C}$. She then looks up the specific heat of water in a reference book and finds that it is $4.18 \text{ J/g}^\circ\text{C}$. What is her percent error?