PHYSICS Name:

Worksheet - Accuracy & Precision

Date	Hr

1. An experiment is done to measure the density of a new element called Fredonium (Fr). The following data table contains the results of the experiment. The actual value for the density of Fredonium is: $\mathbf{r_{Fr} = 1.75\ g/mL}$. Complete the data table and use it to answer the following questions.

Trial	density (g/mL)	Ea	Er (%)	Da	Dr (%)
1	1.92				
2	2.01				
3	1.98				
4	2.23				

2. Discuss the accuracy of the above data.

3. Discuss the precision of the above data.

4. An experimentor measures the speed of sound in air. The following data is attained: 801 mph, 822 mph, 795 mph, 848 mph. If the accepted value for the speed of sound in air is **346 m/s**, how accurate and/or precise are the measuremens? Watch units!!!

Trial	speed (m/s)	Ea	Er (%)	Da	Dr (%)
1					
2					
3					
4					

5. Draw a target diagram that shows *precision but not accuracy*:

6. Draw a target diagram that shows *precision and accuracy*: