1. The following measurements were made to determine the density of a material whose value was, according to the Handbook of Chemistry and Physics, 1.24 g/mL

Trial #1	1.20 g/mL
Trial #2	1.22 g/mL
Trial #3	1.22 g/mL

a. make a general comment on the **accuracy** of these results

The results were relatively close and fairly accurate with difference of 0.02 in two of the trials.

b. make a general comment on the **precision** of these results

The precision was high because two of the results were the same.

c. use the average of the three trials as the "measured value" and determine the numerical value for the **percent error.**

1.20 + 1.22 + 1.22 = 3.64/3 = 1.21g/ml

% error = $\underline{1.24 - 1.21}$ x 100 = **2.42%**
                   1.24

2. The following measurements were made to determine the density of a material whose value was, according to the handbook of Chemistry and Physics, 1.15 g/mL

Trial #1	0.95 g/mL
Trial #2	1.16 g/mL
Trial #3	1.26 g/mL

a. make a general comment on the **accuracy** of these results

Low accuracy as there was spread of 0.31 between the first and third reading.

b. make a general comment on the **precision** of these results

Low precision as all results were different and not close in value.

c. use the average of the three trials as the "measured value" and determine the numerical value for the **percent error.**

0.95 + 1.16 + 1.26 = 3.37/3 = 1.12g/ml

% error = $\underline{1.15 - 1.12}$ x 100 = **2.6%**
                      1.15

The percentage error was almost the same as the previous question despite having lower accuracy and precision. The reason was the high and low values cancelled each other out when the average was calculated.