10/22

Accuracy vs. Precision

Accuracy - how closely an answer agrees with an accepted value

Precision - depends upon how finely divided your measurement tool is

the more precise your measurent, the more numbers (figures) your measurement has

3.3

3.44 ←

$$\text{Density} = \frac{\text{mass}}{\text{volume}} = \frac{15.15\text{g}}{3.7\text{mL}} = 4.1$$

4

2

an answer can not be more precise than any of the measurements

Rules for sig figs

(1) all non-zero numbers are significant
i.e. 57 → 2 sf
2,347 → 4 sf

(2) zeros between sig figs are significant
1.007 → 4 sf
707 → 3 sf

(3) final zeros after a decimal point are sig
3.50×10^1 35 cm → 2
35.0 cm → 3
35.00 cm → 4
035.0 → 3

(4) zeros used as placeholders only are not significant
4.2×10^{-3} .0042 → 2

93 000 000 miles → 2 sf

9_3 000 000. → 8 sf

9_3 000 000 → 5 sf

93 000 000 → 8 sf

Oct 22-11:49 AM