Name: _____ Date: _____

Unit 1 - Topic 1

Significant Figures

How many significant figures do the following numbers have?

1) 1234 _____
2) 0.023 _____
3) 890 _____
4) 91010 _____
5) 9010.0 _____
6) 1090.0010 _____
7) 0.00120 _____
8) 3.4×10^{4} _____
9) 7.991×10^{-10} _____
10) 0.0001 _____

Problem
3.1415 x 2.25 = 7.068375

Correct number of sig figs = 3

Solution 7.07

Calculating with Significant Figures

- **multiplication and division** - the number of significant figures in a product or quotient is the same as the measurement with the *smaller* number of sig figs.

- **addition and subtraction** - the number of decimal places in the sum or difference is equal to the number of decimal places in the measured quantity with the *smallest* number of decimal places.

Problem
6.357 - 2.4 = 3.957

Correct number of decimal places = 1

Solution 4.0

Perform each of the following calculations, expressing the answer with the correct number of significant figures.

11) 3.482 cm + 8.51 cm + 16.324 cm _____
12) 80.4 cm - 16.532 cm _____
13) 48.2 cm x 1.6 cm x 2.12 cm _____
14) $64.34\ cm^3 \div 8.149\ cm$ _____
15) $4.93\ mm^2 \div 18.71\ mm$ _____