WS 2.2 Significant Figures! ***Name:_____p.____***

For this entire worksheet, only use scientific notation if it is necessary for showing the correct number of sig. figs, or if you are instructed to use it!

1. Round or rewrite the given number so that it has 3 sig. figs., and so it has 2 sig. figs.

Number	with 3 s.f.	with 2 s.f.
900	_____	_____
60000	_____	_____
61111	_____	_____
0.03	_____	_____
5600	_____	_____
1300.9821	_____	_____
0.0603779	_____	_____
5000	_____	_____
7481	_____	_____
7401	_____	_____
2.3790	_____	_____
3030	_____	_____

2. Multiplication and Division!
Look at all the given numbers and count how many significant figures they each have.
Determine how many sig. figs. are in the given number with the fewest sig. figs.
Round/report your answer to that number of significant figures.

	Calculator Answer:	***Correct sig. fig. answer:***
78.3 / 1.42	= 111.186	_____
5.11005 x 2.3	= 11.7531	_____
28.71 / 25.2	_____	_____
48.82 / 24.41	_____	_____
60. / 0.0100	_____	_____

3. Addition and Subtraction:
Look at all the given numbers and determine the precision of each number.
For example, Is it reported to the tens' place?
ones' place?
one tenth (1 decimal place)
one hundredth (2 decimal places)
one thousandth? (3 decimal places)

Determine which number is reported to the least precision (for example, the fewest number of decimal places.)
Round/report your answer to the same precision as the least precise number.

	Calculator Answer:	***Correct sig. fig. answer:***
35.12 + 2.3	= 37.42	_____
6.3 + 3.7	= 10	_____
6.8 + 102	= 108.8	_____
16.387 – 1.2	= 15.187	_____
116.92 – 114.72	= 2.2	_____

4. Mixed Practice! Make the following calculations, and then round/report your answer to the correct number of significant figures.

	Calculator Answer	***Correct sig. fig. answer***
126.2 + 4.41	= 130.61	_____
146.72 *7.96	= 1167.8912	_____
364.8 / 4.56	= 80	_____
36480 / 4.56	= 8000	_____
230.2 – 7.2	= 223	_____
2.49 x 86.72	= 215.9328	_____
2.49 x 2008.1	= 5000.169	_____
50.9 + 80.7	= 131.6	_____
14.181 – 3.12	_____	_____
14.181 + 3.12	_____	_____
14.18 / 13.21	_____	_____
15000. / 0.25	_____	_____
14.18 * 13.21	_____	_____
3.42 – 2.62	_____	_____
12621 / 42.07	_____	_____
62100 / 1.5525	_____	_____

5. Formula writing review: Fill in the missing name or formula for each compound.
Be sure to name it according to the correct system (ionic or covalent)

$CoBr_2$ _____

SBr_2 _____

lithium thiosulfate _____

cobalt arsenate _____

NO _____

BaO _____

PbO _____

dinitrogen pentoxide _____

triboron heptasulfide _____

Br_2O _____

Ag_2O _____

SiF_4 _____

CS_2 _____

chromium IV oxide _____

strontium hypochlorite _____

Each chemical equation below shows two elements reacting to form a compound. For each reaction:
a) classify the compound(s) that form as ionic or covalent.
b) name the compound(s) that form in the reaction.
c) state whether the each reacting element will need to gain, lose, or share electrons to bond in the compound.
d) If electrons are lost or gained, indicate which element will gain electrons and which will lose electrons.

6. $3\ I_{2(s)} + 2\ Al_{(s)} \text{ -------> } 2\ AlI_{3\,(s)} + \text{energy}$ c/d:

a. _____ b. _____

7. $3\ I_{2(s)} + N_{2(g)} \text{ -------> } 2\ NI_{3\,(g)} + \text{energy}$ c/d:

a. _____ b. _____