Sig Figs — Rounding, Adding and Subtracting

*Use pgs.50-53 to answer the following questions

1. Do all scientific instruments provide the same quality of data as one another? Explain

2. What is a significant figure (sig fig)?

3. If you have a LOT of significant figures in your data, are you always an accurate scientist? Explain

4. What are the 5 Rules to recognizing sig figs?

   1.
   2.
   3.
   4.
   5.

5. Identify the number of significant figures in each of the numbers below

010002 =	4060 =	19.100×10^{6} =
6701 =	73.446 =	0.728 =
0.0605 =	-63.200×10^{-8} =	

6. Why is rounding important in dealing with sig figs?

7. What are the rounding rules when dealing with sig figs?

   1.
   2.
   3.
   4.

8. Round the following numbers to 2 sig figs

37 =	$4\,2.60 \times 10^{-8}$=	695 =
7840 =	0.007 =	$-5\,2.330 \times 10^{3}$ =

9. What are the rounding rules that apply to adding and subtracting sig figs?

* Round the following numbers to the appropriate number of significant figures indicated

Round to 4 sig figs:

3.682417 =

21.860051 =

375.6523 =

112.511 =

45.4673 =

95.30500 =

Round to 1 sig fig:

1.3511 =

2.473 =

5.687524 =

7.555 =

8.235 =

10.005600 =

Round to 2 sig figs:

22.494 =

79.2588 =

0.03062 =

3.4125 =

41.86632 =

106.12045 =

* Express the answer to each problem below using the sig fig correct rules for addition and subtraction.

1) 7.2 + 99.959 = _____

2) 32.8217 + 7.4895 + 5.6 = _____

3) 92.82 - 3.24 = _____

4) 65.5 - 5.174 = _____

5) 3.5998 + 36.231 = _____

6) 8.9 + 57.3526 + 22.84 = _____

7) 92.534 + 4.76 + 6.5 = _____

8) 91.1 + 97.743 = _____

9) 5.867 + 3.2733 + 7.88 = _____

10) 6.63 - 4.7 = _____

11) 86.14 - 78.1974 = _____

12) 21.79 + 2.4 = _____

13) 43.4 + 14.2636 = _____

14) 8.858 + 58.9415 + 83.173 = _____

15) 97.1 + 76.536 = _____

16) 71.822 + 93.5 + 4.7518 = _____

17) 96.8 - 8.9 = _____

18) 85.5297 - 9.8944 = _____

19) 47.6634 + 5.959 + 12.62 = _____

20) 5.8485 + 21.1946 = _____