SIGNIFICANT FIGURES

1. All non-zero figures are significant: 112.6 has four sig. figs.

2. All zeroes between non-zero figures are significant: 108.005 has six sig. figs.

3. Zeroes to the right of a non-zero figure, but to the left of an understood decimal point are NOT significant unless indicated to be significant (usually a line over the zero or listed in standard scientific notation) 200 has one sig. fig. and 2.00×10^2 has three sig. figs.

4. All zeroes to the right of a decimal point, but to the left of a non-zero figure, are NOT significant: 0.00647 has three sig. figs.

5. All zeroes to the right of a decimal point and following a non-zero figure are significant: both 0.07080 and 20.00 have four sig. figs.

6. Rules for Addition and Subtraction (think place!) The answer should have the same number of decimal *places* as the quantity have the least number of decimal places: 10.6 cm + 3.34 cm = 13.9 cm

7. Rules for Multiplication and Division (think number!) The number of significant figures should NOT be greater than the number of significant figures in the least precise factor: 6.2 cm x 3.44 cm = 21 cm^2

8. Rules for Rounding:
   A. If the digit to be dropped is less than five, simple eliminate it.
      134.3 g to 3 sig. Figs. = 134 g

   B. If the digit to be dropped is more than five, (or a 5 followed by any non zero) add 1 to the preceding digit.
      134.6 g to 3 sig. Figs. = 135 g 134.501 g to 3 sig. figs. = 135 g

   C. If the digit to be dropped is five, inspect the preceding digit.
      If it is even, simply eliminate the five. 134.5 g to 3 sig. Figs. = 134 g
      If it is odd, add 1 to the preceding digit. 133.5 g to 3 sig. Figs. = 134 g