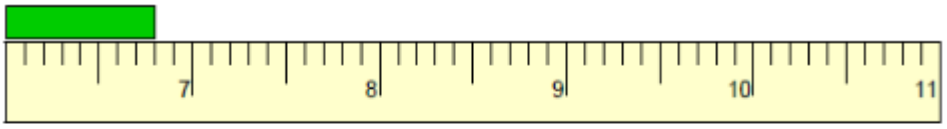
Chemistry 101 Name:_____

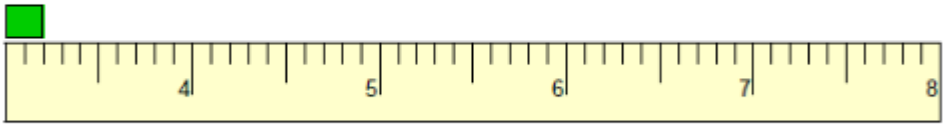
MEASUREMENTS & SIGNIFICANT FIGURES

Part 1: Measurements

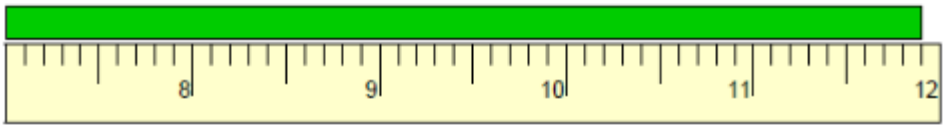
1. Shown below are several metric cm rulers like those you have in your lockers. Read each ruler to the proper number of significant digits? Be sure to include units with your answers.

1) 

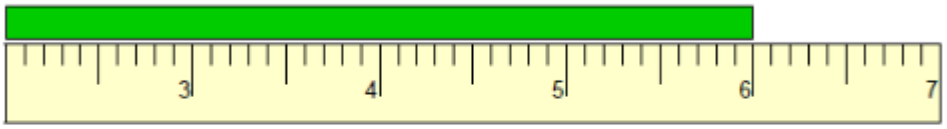
_____

2) 

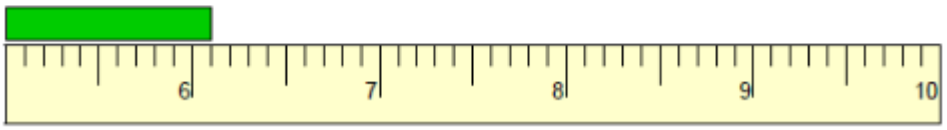
_____

3) 

_____

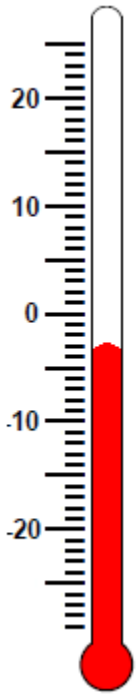
4) 

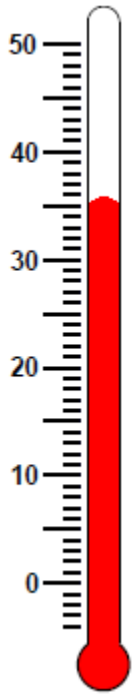
_____

5) 

_____

2. Record the readings on each thermometer shown below?





_____ _____ _____

Part 2: Significant Figures

1. Determine the number of significant figures in the following numbers.

a) 0.02 _____ b) 0.020 _____ c) 501 _____ d) 501.0 _____

e) 5,000 _____ f) 5,000. _____ g) 6,051.00 _____

h) 0.0005 _____ i) 0.1020 _____ j) 10,001 _____

2. Rewrite/round each of the following numbers so that it has 3 significant figures.

a) 0.03006 _____ c) 0.007997 _____

b) 10,800,000. _____ d) 90,185 _____

3. Perform the following operations expressing the answer with the correct number of significant figures.

a) 1.35 m x 2.467 m =

b) 0.021 cm x 3.2 cm x 100.1 cm =

c) 1.252 mm x 0.115 mm x 0.012 mm =

d) 55.46 g - 28.9 g =

e) 12.01 mL + 35.2 mL + 6 mL =

f) 0.15 cm + 1.15 cm + 2.051 cm =

g) $\dfrac{4.00 \times 58.69}{(6.02 \times 10^{23}) \times 6.84} =$

h) $\dfrac{30.01\ \text{g}}{(62.6 - 56.3)\ \text{mL}} =$