Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section: \_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Convert the following units using the metric ladder or dimensional analysis. All problems should be solved using the “Know, Find, Solve” format. Ensure that you show all units, that all units are cancelled (except unit you are converting to), and that you write full sentences for written responses.**

1. Convert 298 grams to kilograms
2. Convert 21 hectometers to centimeters
3. Convert 1042 deciliters to milliliters
4. Convert 1840 meters to feet (1m = 3.28 ft.)
5. Convert 625 square miles to square kilometers (5,280 ft = 1 mi) (2.54 cm = 1 in)

1. Convert the density of 25 g/mL to kg/L.
2. Convert the density of 500,000 mg/L to dag/mL.
3. Convert the volume of 6,230 ft3 to hL
4. Convert 326 pounds to kilograms (1 kg = 2.2lb)
5. Convert 510 quarts to milliliters (1 liter = 1.057 quarts)
6. When you move a decimal in a number to the right 3 places, what have you done to the number mathematically?
7. When you move a decimal in a number to the left 2 places, what have you done to the number mathematically?
8. Explain why multiplying by a conversion factor (*e.g.* $\frac{1000g}{1 kg}$or$\frac{1ft}{12in}$) does not change the value of a measurement.