U1-LM2B- Worksheet – Significant Figures and Unit Conversions

1. How many significant figures are in the following measurements?
   AND What is the uncertainty in each of these measurements?

   1304 mm   500.0 in

   40.002 Kg   0.04320 gal

   2030 g   0.01 yd

2. Express the following in the proper number of significant figures:

   3.4 in + 0.20 in + 14.123 in =

   12,000 in + 535 in + 25.0 in =

   1.0327 miles - 1.00044 miles =

   45 in X 3.25 in =

   1200 in ÷ 4 in =

3. Which is larger?

   150 cm or 0.15 m?

   2 L or 8.5 m^3?

   150 ft or 1500 cm?

4. Express 2.61 cubic feet in cubic millimeters.

5. The density of water at 25 °C is 1 g/mL. Calculate the density of water in lb/ft^3.
   (1 lb = 454 g, 1ft = 12 in, 1 in = 2.54 cm and 1 cm^3 = 1 mL)

6. A swimmer completed a 1650. yd race in 14 minutes and 48 seconds. What is the swimmer's average speed in miles/hour? (1mile = 1760 yd)

7. A cube of metal is 1.42 millimeters on an edge. Its mass is 0.0163 g. Express its density in g/ml (1 ml = 1 cm^3)

8. The price of gasoline is $3.59 per gallon in Texas. How much does it cost to fill an 80.0 L tank? How much would it cost to travel 180. Km driving at 25 mpg? (1 gal = 3.78 L; 1 mi = 1.61 km)

9. A car travels at a speed of 45 mi/hr. How many meters does it travel per second?