Dimensional Analysis Review

These are the conversion factors you are required to memorize. Try without peeking at your notes!

1 foot = _____ in	1 pound = _____ oz	1 cup = _____ fl oz
1 yard = _____ ft	1 ton (T) = _____ lb	1 pint _____ c
1 yard = _____ in	1 inch = _____ cm	1 quart = ___ pt
1 mile = _____ ft	1 mile = _____ km	1 gallon = _____ qt

Convert the following: (SHOW ALL WORK)

1. 4.22 g/cm to lbs/ft. ((hint: 454 g = 1 lb))

2. 10095 m/s to miles/s

3. 2.05 x 10^5 seconds into years.

4. 0.0054 weeks into minutes

5. 498.82 cg to mg

6. Traveling at 65 miles/hour, how many minutes will it take to drive 125 miles to San Diego?

7. Joe was driving sixty miles/ hour in his Honda Civic. How many ft/sec was Joe driving?

8. Determine the number of years in 8.35 x 10^6 minutes.

9. If a swimmer swims 85.4 yards in five minutes, how many meters will s/he swim in 70.0 seconds?

10. At a given point in its orbit, the moon is 2.4 x 10^5 miles from earth. How long does it take light from a source on earth to reach a reflector on the moon and then return to earth? (speed of light is 3.0 x 10^8 m/s)

11. A car consumes 25.00 gallons of fuel when driving a distance of 400.0 km. How many gallons will it consume when driving 250.0 miles?

12. Winnipeg is refilling the pool. How many gallons of water will it take if the pool is 50m by 25m by 1.5m? (hint : 1 gallon = 3.786 L and 1 cubic meter = 1000 Liters). Write your final answer in scientific notation.

13. If 1 L = 10^4 mm^3, how many Dekaliters are in a tank that is 30 x 20 x 40 mm?