NAME_____ DATE_____

DIMENSIONAL ANALYSIS PROBLEMS

DIRECTIONS: Solve each problem using dimensional analysis. Every number must have a unit. Conversion factors are given below

Conversions Factors	
1 hr = 60 min	7 days = 1 week
24 hrs = 1 day	264.2 gal = 1 cubic meter
1 cubic meter = 1,000 Liters	
1 mi = 5,280 ft	20 drops = 1 mL
365.25 days = 1 year	1 L = 1000 mL
0.625 mi = 1.00 km	1 L = 1000 cm^3

1.) How many miles will a person run during a 10 kilometer race?

2.) The moon is 250,000 miles away. How many feet is it from earth?

3.) A family pool holds 10,000 gallons of water. How many cubic meters is this?

4.) The average Andrew student is in class 330 minutes/day. How many hours/day is this? How many seconds is this?

5) How many days are there in 4 years?

6) Lake Michigan holds 1.3×10^{15} gallons of water. How many cubic meters is this?

7) Pepsi puts 355 ml of pop in a can. How many drops is this?

8) Chicago uses 1.2×10^{9} gallons of water /day. How many cubic meters is this?

Challenge problems

9) Lake Michigan holds 1.3×10^{15} gallons of water, how many ml's does this equal? (clue: takes 3 step DA)

10) Change 60 miles/ hour to _____ft/sec (clue: both miles and hour must be change to other units)