

## DIMENSIONAL ANALYSIS (DA) PRACTICE #2

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DIRECTIONS: Solve each problem using dimensional analysis. Every number must have a unit. Watch the sig. figs.

### CONVERSION FACTORS

$$1 \text{ hr} = 60 \text{ min}$$

$$24 \text{ hrs} = 1 \text{ day}$$

$$1 \text{ mi} = 5\,280 \text{ ft}$$

$$365.25 \text{ days} = 1 \text{ yr}$$

$$0.625 \text{ mi} = 1.00 \text{ km}$$

$$12 \text{ drops} = 1 \text{ mL}$$

$$7 \text{ days} = 1 \text{ week}$$

$$264.2 \text{ gal} = 1 \text{ m}^3$$

$$1 \text{ L} = 1\,000 \text{ mL}$$

$$1 \text{ L} = 0.2642 \text{ gal}$$

$$1 \text{ L} = 1\,000 \text{ cc}$$

- 1.) How many miles will a person run during a 10.0 kilometer race?
- 2.) The moon is 250,000 miles away. How many feet is it from earth?
- 3.) A family pool holds exactly 1000 gallons of water. How many cubic meters is this?
- 4.) The average student is in class 330 minutes/day.  
How many hours per day is this? How many seconds is this?
- 5) How many seconds are there in exactly 25 years?
- 6) Lake Michigan holds  $1.3 \times 10^{15}$  gallons of water. How many liters is this?
- 7) Pepsi puts 355 mL of soda in a can.  
How many drops is this? How many cubic centimeters (cc) is this?
- 8) Change 60.0 miles/ hour to \_\_\_\_\_ft/sec.
- 9) Every three times I clean my bedroom, my mother makes me chocolate cake. I cleaned my bedroom 12 times. How many chocolate cakes does she owe me? All conversions are exact.
- 10) You are planning a party for Friday night, and you expect 30 people to attend. You estimate that each person may drink 4 sodas, eat  $\frac{1}{4}$  of a large bag of chips, and eat  $\frac{1}{3}$  of a pizza. How much soda, chips and pizza should you buy?