FACTOR-LABEL WORKSHEET #2 NAME: _____

Solve the following using the Factor-Label Method.

Even #'s

Example: $\frac{12.3\ lbs}{75\ cm^3} = ?\ \frac{mg}{inch^3}$

$$\frac{12.3\ lbs}{75\ cm^2}\times\frac{454\ g}{1\ lbs}\times\frac{10^3\ mg}{1\ g}\times\frac{(2.54)^3\ cm^3}{(1)^3\ in^3} = 1.22\times10^6\ \frac{mg}{in^3}$$

1) 3.56 x 10^{-4} m = ? cm

$$\frac{3.56\times10^{-4}\ m}{}\times\frac{10^2\ cm}{1\ m} = 3.56\times10^{-2}\ cm \quad or \quad 0.0356\ cm$$

2) 8.00 x 10^6 mL = ? L

3) 6.50 ft = ? mm (one inch = 2.54 cm)

$$\frac{6.50\ ft}{}\times\frac{12\ in}{1\ ft}\times\frac{2.54\ cm}{1\ in}\times\frac{10^1\ mm}{1\ cm} = 1.98\times10^3\ mm \quad or \quad 1981\ mm$$

4) 2.50 lbs = ? mg (one pound = 454 grams)

5) 7.30 g = ? kg

$$\frac{7.30\ g}{}\times\frac{1\ kg}{10^3\ g} = 7.3\times10^{-3}\ kg \quad or \quad 0.0073\ kg$$

6) 452 mm = ? Gm

7) 6.15 miles = ? m (one mile = 5280 ft)

$$\frac{6.15\ miles}{} \times \frac{5280\ ft}{1\ mile} \times \frac{12\ in}{1\ ft} \times \frac{2.54\ cm}{1\ in} \times \frac{1\ m}{10^2\ cm} = 9.90 \times 10^3\ m \quad or \quad 9897\ m$$

8) $\frac{5.33 \times 10^4\ dL}{12\ \text{min}} = ? \frac{gallons}{hour}$ (one gallon = 3.785 L)

9) $\frac{7.17\ gallons}{22\ \text{seconds}} = ? \frac{kL}{day}$

$$\frac{7.17\ gallons}{22\ \text{sec}} \times \frac{60\ \text{sec}}{1\ \text{min}} \times \frac{60\ \text{min}}{1\ hr} \times \frac{24\ hr}{1\ day} \times \frac{3.785\ L}{1\ gal} \times \frac{1\ kL}{10^3\ L} = 107\ \frac{kL}{day}$$

10) $\frac{93.4\ grams}{72\ mm^3} = ? \frac{lbs}{inch^3}$