

Convert the following into standard notation and indicate the number of significant in each number.

$$3.456 \times 10^3 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$2.500 \times 10^{-4} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$3.0 \times 10^5 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$0.000 \times 10^{-6} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

Convert the following into scientific notation and indicate the number of significant in each number.

$$370098 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$0.00700 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$3000000 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$230.0 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

Make the following conversions keeping careful track of the number of significant figures.

1. 45.0  $\mu\text{l}$  into liters ( 1  $\mu\text{l}$  = 0.000 001 liters)

2. 36.00000 in  $\rightarrow$  cm (2.54 cm = 1 in, exactly)

3. 1.5 tsp  $\rightarrow$  ml (1tsp =  $4.928\,921\,595 \times 10^{-6} \text{ m}^3$ )

4. 33.508 mm  $\rightarrow$  inches. (1 ft = 0.3048 m exactly)

5. 30 miles/hour  $\rightarrow$  km/hour ( 1mile = 1609.347 m)

6. 4cups - > liters ( 16 cups = 1 gallon, 1 gallon = 3.785 liters)