

### AP Chemistry Dimensional Analysis Practice

#### Conversion Factors

$$1 \text{ L} = 1000 \text{ cm}^3 = 1000 \text{ ml}$$

$$1 \text{ ml} = 1 \text{ cm}^3$$

$$2.54 \text{ cm} = 1 \text{ inch}$$

$$1 \text{ m} = 39.37 \text{ inches}$$

$$1 \text{ km} = 0.622 \text{ miles}$$

$$454 \text{ g} = 1 \text{ pound}$$

$$1 \text{ kg} = 2.205 \text{ pounds}$$

$$1 \text{ L} = 1.064 \text{ quarts}$$

Convert the following: (Show all of your work on a separate sheet of paper)

	<u>From:</u>	<u>To:</u>
1)	17.03 m	km
2)	8.25 g	mg
3)	250 cl	ml
4)	3.14 kg	mg
5)	1.0 g/ml	$\mu\text{g/L}$
6)	3.25 mg/dl	g/L
7)	52.0 pounds	grams
8)	187.0 cm	inches
9)	3.5 hours	seconds
10)	350.0 meters	feet
11)	8.25 inches <sup>2</sup>	cm <sup>2</sup>
12)	60 meters/second	kilometers/hour
13)	24 ml	cm <sup>3</sup>
14)	56 cm <sup>3</sup>	inches <sup>3</sup>
15)	2.0 L	inches <sup>3</sup>
16)	14.7 pounds/inch	grams/cm
17)	40 L/second	feet <sup>3</sup> /second

#### Scientific Notation

Write each number in scientific notation:

18) 200

19) 0.0056

20) 25,900,000

21) 0.005082

Write each number as a decimal

22)  $3.5 \times 10^4$

23)  $6.77 \times 10^{-5}$

24)  $1.50 \times 10^3$

25)  $6.02 \times 10^{23}$