

Name: \_\_\_\_\_

Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Chemistry: *Conversion Factors*

*Below are some conversion factors used in the SI System, and which we will use in this class.*

<u>kilo- = 1000</u>	<u>centi- = 1/100</u>	<u>milli- = 1/1000</u>	<u>Other Conversions</u>
1 kg = 1000 g		1000 mg = 1 g	1 mL = 1 cm <sup>3</sup>
1 km = 1000 m	100 cm = 1 m	1000 mm = 1 m	1 L = 1 dm <sup>3</sup>
1 kL = 1000 L		1000 mL = 1 L	1 cm = 10 mm

*Solve each of the following problems. Show the correct set-up and always use units.*

1. Determine the number of mm in 1600 m.
2. Determine the number of m in 1600 mm.
3. Determine the number of mm in 14.3 cm.
4. How many seconds are in 4.3 years?
5. Convert 2875 cm<sup>3</sup> to liters.
6. The density of lead (Pb) is 11.34 g/cm<sup>3</sup>. Find the density of Pb in kg/dm<sup>3</sup>.
7. Convert 5.2 cm of magnesium (Mg) ribbon to mm of Mg ribbon.

8. Convert 0.049 kg sulfur (S) to g of S.
9. Convert 0.020 kg of tin (Sn) to mg of Sn.
10. Convert 150 mg of acetylsalicylic acid (aspirin) to g of aspirin.
11. Convert 2500 mL of hydrochloric acid (HCl) to L of HCl.
12. A metallurgist is making an alloy that consists of 325 g of chromium (Cr) and 2.5 kg of iron (Fe). Find the total mass of the mixture in kg.
13. How many mL of water ( $\text{H}_2\text{O}$ ) will it take to fill a 2 L bottle that already contains 1.87 L of  $\text{H}_2\text{O}$ ?
14. Convert 150 cm of copper (Cu) wire into mm of Cu wire.
15. Convert 0.5 g of sodium (Na) to kg of Na.