

Name: _____

C1 Chemistry I: ☐ A block ☐ C block ☐ D block

Unit Conversions

Perform each of the following conversions. A list of conversion factors is given on the back of this worksheet.

1. $23.6 \text{ cm} = \text{_____ m}$

6. $3.65 \text{ mi.} = \text{_____ km}$

2. $15.9 \ell = \text{_____ mL}$

7. $64 \text{ in.} = \text{_____ cm}$

3. $0.89 \text{ km} = \text{_____ mm}$

8. $183 \text{ lb.} = \text{_____ kg}$

4. $7.31 \times 10^{24} \text{ mmol} = \text{_____ mol}$

9. $65 \frac{\text{mi.}}{\text{hr.}} = \text{_____ } \frac{\text{m}}{\text{s}}$

5. $15.0 \text{ gal} = \text{_____ } \ell$

10. $13.2 \frac{\text{g}}{\text{cm}^3} = \text{_____ } \frac{\text{lb.}}{\text{ft.}^3}$

Conversion Factors

Conversions with an “is identical with” sign ($\equiv$) are exact (infinitely precise). Conversions with an equals sign ($=$) are precise to the number of significant figures given.

$$1.000 \text{ gal.} = 3.785 \ell$$

$$1.00 \text{ mi.} = 1.61 \text{ km}$$

$$1 \text{ in.} \equiv 2.54 \text{ cm} \qquad (1 \text{ in.})^3 \equiv (2.54 \text{ cm})^3 \qquad 1 \text{ in.}^3 \equiv 2.54^3 \text{ cm}^3$$

$$1 \text{ ft.} \equiv 12 \text{ in.} \qquad (1 \text{ ft.})^3 \equiv (12 \text{ in.})^3 \qquad 1 \text{ ft.}^3 \equiv 12^3 \text{ in.}^3$$

$$1.00 \text{ lb.} = 454 \text{ g}$$

$$1 \text{ hr.} \equiv 60 \text{ min.}$$

$$1 \text{ min.} \equiv 60 \text{ s}$$