

Conversions Using Dimensional Analysis

Single Step

$$a) 24.5 \text{ dL} \left(\frac{1 \text{ L}}{10 \text{ dL}} \right) = 2.45 \text{ L}$$

$$b) 24.5 \text{ dL} \left(\frac{10 \text{ L}}{1 \text{ dL}} \right) = 245 \text{ L}$$

$$c) 234 \text{ g} \left(\frac{1 \text{ kg}}{1000 \text{ g}} \right) = 0.234 \text{ kg}$$

$$d) 0.000342 \text{ g} \left(\frac{1000000000 \text{ ng}}{1 \text{ g}} \right) = 3.42 \times 10^5 \text{ ng}$$

$$e) 0.0000000043 \text{ m} \left(\frac{1000000000000 \text{ pm}}{1 \text{ m}} \right) = 4.3 \times 10^2 \text{ pm}$$

$$f) 243 \text{ m} \left(\frac{100 \text{ cm}}{1 \text{ m}} \right) = 24300 \text{ cm}$$

$$g) 0.34 \text{ dL} \left(\frac{1 \text{ L}}{10 \text{ dL}} \right) = 0.034 \text{ L}$$

$$h) 4500 \text{ m} \left(\frac{1000 \text{ mm}}{1 \text{ m}} \right) = 4.5 \times 10^6 \text{ mm}$$

$$i) 234 \text{ kW} \left(\frac{1 \text{ MW}}{1000000 \text{ kW}} \right) = 2.34 \times 10^{-4} \text{ MW}$$

$$j) 355 \text{ dL} \left(\frac{1 \text{ L}}{1000 \text{ dL}} \right) = 0.355 \text{ L}$$

$$k) 400 \text{ y} \left(\frac{1000000 \text{ uL}}{1 \text{ y}} \right) = 4.0 \times 10^8 \text{ uL}$$

$$l) 42 \text{ kW} \left(\frac{1000 \text{ W}}{1 \text{ kW}} \right) = 42000 \text{ W}$$

$$m) 0.0000000024 \text{ g} \left(\frac{1000000000000 \text{ pg}}{1 \text{ g}} \right) = 240 \text{ pg}$$

$$n) 0.00482 \text{ dam} \left(\frac{10 \text{ m}}{1 \text{ dam}} \right) = 0.0482 \text{ m}$$

Two Step

$$a) 24.5 \text{ dL} \left(\frac{10 \text{ L}}{1 \text{ dL}} \right) \left(\frac{1 \text{ dL}}{1 \text{ L}} \right) = 2450 \text{ dL}$$

$$b) 24.5 \text{ dL} \left(\frac{1 \text{ L}}{10 \text{ dL}} \right) \left(\frac{1 \text{ dL}}{10 \text{ L}} \right) = 0.245 \text{ dL}$$

$$c) 23460 \text{ ng} \left(\frac{1 \text{ g}}{1000000000 \text{ ng}} \right) \left(\frac{1 \text{ kg}}{1000 \text{ g}} \right) = 2.346 \times 10^{-8} \text{ kg}$$

$$d) 0.0000000043 \text{ cm} \left(\frac{1 \text{ m}}{100000 \text{ cm}} \right) \left(\frac{1000000000000 \text{ pm}}{1 \text{ m}} \right) = 4.3 \text{ pm}$$

$$e) 630 \text{ mm} \left(\frac{1 \text{ m}}{1000 \text{ mm}} \right) \left(\frac{1000 \text{ mm}}{1 \text{ m}} \right) = 630 \text{ mm}$$

$$f) 0.0035 \text{ dL} \left(\frac{1 \text{ L}}{10 \text{ dL}} \right) \left(\frac{1 \text{ dL}}{10 \text{ L}} \right) = 3.5 \times 10^{-5} \text{ dL}$$

$$g) 42000 \text{ } \mu\text{m} \left(\frac{1 \text{ m}}{1000000 \text{ } \mu\text{m}} \right) \left(\frac{1000 \text{ mm}}{1 \text{ m}} \right) = 42 \text{ mm}$$

$$h) 592 \text{ GW} \left(\frac{1000000000 \text{ W}}{1 \text{ GW}} \right) \left(\frac{1 \text{ MW}}{1000000 \text{ W}} \right) = 5.92 \times 10^5 \text{ MW}$$

