

1. (3 points) How many cm are there in 45.2 km?

$$45.2 \text{ km} \times \frac{10^3 \text{ m}}{1 \text{ km}} \times \frac{10^2 \text{ cm}}{1 \text{ m}} = \underline{4.52 \times 10^6 \text{ cm}}$$

2. (3 points) How many inches are there in 0.52 m?

$$0.52 \text{ m} \times \frac{10^2 \text{ cm}}{1 \text{ m}} \times \frac{1 \text{ in}}{2.54 \text{ cm}} = \underline{20. \text{ or } 2.0 \times 10^1 \text{ in}}$$

3. (3 points) What mass of lead (Pb) would have the same volume of 54.5 g of iron?

$$54.5 \text{ g Fe} \times \frac{1 \text{ cm}^3}{8.74 \text{ g Fe}} \times \frac{11.3 \text{ g Pb}}{1 \text{ cm}^3} = \underline{70.5 \text{ g Pb}}$$

$$d_{\text{lead}} = \frac{11.3 \text{ g}}{\text{cm}^3}$$
$$d_{\text{iron}} = \frac{8.74 \text{ g}}{\text{cm}^3}$$

4. (3 points) How many mm² are there in 0.525 cm²?

$$0.525 \text{ cm}^2 \times \left(\frac{10 \text{ mm}}{1 \text{ cm}} \right)^2 = \underline{52.5 \text{ mm}^2}$$

5. (3 points) Give the symbol or name of the following elements:

(a) K potassium

(c) phosphorous P

(c) Mg Magnesium