

SI and Imperial Conversions Sheet **SOLUTIONS**

****Note:** SI units are written as decimals (if needed) and Imperial units are written as fractions in lowest terms (if possible).

1. Convert the following SI units to SI units.

a. $1 \text{ cm} = 10 \text{ mm}$

b. $1 \text{ m} = 100 \text{ cm}$

c. $1 \text{ km} = 1000 \text{ m}$

2. Convert the following imperial system units to imperial system units.

a. $1 \text{ ft} = 12 \text{ in}$

b. $1 \text{ yd} = 3 \text{ ft}$

c. $1 \text{ yd} = 36 \text{ in}$

d. $1 \text{ mi} = 1760 \text{ yd}$

e. $1 \text{ mi} = 5280 \text{ ft}$

3. Convert the following imperial system units to SI units. Show your conversion to the nearest tenth of a unit.

a. $1 \text{ in} = 2.54 \text{ cm}$

b. $1 \text{ ft} = 0.3048 \text{ m}$

c. $1 \text{ yd} = 0.9144 \text{ m}$

d. $1 \text{ mi} = 1.609 \text{ km}$

4. Convert the following SI units to Imperial units. Show your conversion as a fraction.

a. $1 \text{ mm} = 0.1 \text{ cm}$

Since $1 \text{ cm} = 0.3937 \text{ in}$ we set up a proportion and get

$$\frac{0.1}{1} = \frac{x}{0.3937}$$

$$x = 0.03937$$

Or approximately 0.04 which as a fraction is $\frac{4}{100}$ or $\frac{2}{50}$ in

b. $1 \text{ cm} = 0.3937 \text{ in}$ or rounding we get 0.4 which is $\frac{4}{10}$ or $\frac{2}{5}$ in

c. $1 \text{ m} = 3.2808 \text{ ft}$ or rounded we could 3.28 or $3\frac{7}{25}$ ft

d. $1 \text{ km} = 0.6214 \text{ mi}$ or rounded we have 0.62 or $\frac{31}{50}$ mi