Unit Conversions Worksheet

1) How many inches are there in 45.6 cm? (There are 2.54 cm in 1 inch)

2) How many centimeters are there in 1.23×10^{-6} kilometers?

3) How many hours are there in 34.5 years?

4) How many inches are there in 355 millimeters?

5) How many milliliters are in a cubic meter? (There are 1,000 L in 1 m^3)

6) How many miles are there in 3.44×10^8 inches? There are 0.61 miles in 1 km).

Unit Conversions Worksheet - Solutions

1) How many inches are there in 45.6 cm? (There are 2.54 cm in 1 inch)

18.0 inches

$$\frac{45.6 \text{ cm} \quad| \quad 1 \text{ in}}{| \quad 2.54 \text{ cm}} = \textbf{18.0 inches}$$

2) How many centimeters are there in 1.23 x 10⁻⁶ kilometers?

1.23×10^{-6}

0.123 cm   (There are several ways to do this one, here's just one example.)

$$\frac{0.00000123 \text{ km} \quad| \quad 1000 \text{ m} \quad| \quad 1 \text{ cm}}{| \quad 1 \text{ km} \quad| \quad 0.01 \text{ m}} = \textbf{0.123 cm}$$

3) How many hours are there in 34.5 years?

3.02×10^5 hours   (Same idea here, lots-o-ways.)

$$\frac{34.5 \text{ yrs} \quad| \quad 365 \text{ day} \quad| \quad 24 \text{ hr}}{| \quad 1 \text{ yr} \quad| \quad 1 \text{ day}} = \textbf{302,000 hrs}$$

4) How many inches are there in 355 millimeters?

14.0 inches   (Ditto)

$$\frac{355 \text{ mm} \quad| \quad 0.001 \text{ m} \quad| \quad 1 \text{ cm} \quad| \quad 1 \text{ in}}{| \quad 1 \text{ mm} \quad| \quad 0.01 \text{ m} \quad| \quad 2.54 \text{ cm}} = \textbf{14.0 in}$$

OR

$$\frac{355 \text{ mm} \quad| \quad 1 \text{ cm} \quad| \quad 1 \text{ in}}{| \quad 10 \text{ mm} \quad| \quad 2.54 \text{ cm}} = \textbf{14.0 in}$$

5) How many milliliters are in a cubic meter? (There are 1,000 L in 1 m^3)

1.00 x 10^6 mL

$$\frac{1\ m^3 \quad \mid \quad 1000\ L \quad \mid \quad 1000\ mL}{\quad \quad \mid \quad 1\ m^3 \quad \mid \quad 1\ L} = 1.00\ x\ 10^6\ mL$$

6) How many miles are there in 3.44 x 10^8 inches? There are 0.61 miles in 1 km).

5.43 x 10^3 miles

$$\frac{3.44\ x\ 10^8\ inches \quad \mid \quad 1\ ft \quad \mid \quad 1\ mile}{\quad \quad \mid \quad 12\ in \quad \mid \quad 5280\ ft} = 5.43\ x\ 10^3\ miles$$