Lesson 1: Unit Conversion

An important part of any project that requires measurement is being able to convert the units used to measure into the units necessary to determine the cost of materials or services.

To start, here are the basic unit conversions that you need to know for this unit:

Metric	Imperial
1 metre = 100 centimetres (1 m = 100 cm)	1 foot = 12 inches (1 ft = 12 in) (1' = 12")
1 kilometre = 1000 metres (1 km = 1000 m)	1 yard = 3 feet (1 yd = 3 ft)
	1 mile = 5280 feet (1 mi = 5280 ft)
	1 mile = 1760 yards (1 mi = 1760 yd)

First, you need to be able to convert basic units of measurement from one to the other. You will NEVER be asked in this course to convert metric units to imperial units, or the other way around.

Example 1
Perform the following conversions:

a) Convert 390 centimetres to metres.

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

$$\frac{x \text{ m}}{390 \text{ cm}} = \frac{1 \text{ m}}{100 \text{ cm}}$$

$$x \text{ m} = \frac{1 \text{ m} \times 390 \text{ cm}}{100 \text{ cm}}$$

$$= 3.90 \text{ m}$$

b) Convert 117 inches to feet.

$$1 \text{ ft} = 12 \text{ inches}$$

$$\frac{x \text{ ft}}{117 \text{ inches}} = \frac{1 \text{ ft}}{12 \text{ inches}}$$

$$x \text{ ft} = \frac{1 \text{ ft} \times 117 \text{ inches}}{12}$$

$$= 9.75 \text{ ft}$$

c) Convert 2.3 yards to feet.

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

$$\frac{x \text{ ft}}{2.3 \text{ yd}} = \frac{3 \text{ ft}}{1 \text{ yd}}$$

$$x \text{ ft} = \frac{3 \text{ ft} \times 2.3 \text{ yd}}{1 \text{ yd}}$$

$$= 6.9 \text{ ft}$$

d) Convert 0.8 yards to inches.

$$36'' = 1 \text{ yd}$$

$$\frac{x''}{0.8 \text{ yd}} = \frac{36''}{1 \text{ yd}}$$

$$x'' = \frac{36'' \times 0.8 \text{ yd}}{1 \text{ yd}}$$

$$= 28.8 \text{ inches}$$