Example 1 Converting from Metres to Feet

A bowling lane is approximately 19 m long.

What is this measurement to the nearest foot?

SOLUTION A length of 19 m is approximately 62 ft.

(Erase to reveal)

$$19\text{ m} \times \frac{1.0936\text{ yd}}{1\text{ m}} \times \frac{3\text{ ft}}{1\text{ yd}} = 62\text{ ft}$$

CHECK YOUR UNDERSTANDING

1.3 Relating SI and Imperial Units

TRY THIS ONE...

The tallest structure in Canada is the CN Tower in Toronto. It is 553.3 m tall. The tallest structure in the United States is the Willis Tower, previously known as the Sears Tower, in Chicago. It is 1451 ft. tall.

a) Determine the height of the CN Tower in feet and the height of the Willis Tower in metres.
b) Which structure is taller? Explain how you know.
c) Determine the difference in the heights of the structures, in metres and to the nearest foot.

$553.3\text{m} \times \frac{1.0936\text{ yd}}{\text{m}} \times \frac{3\text{ ft}}{1\text{ yd}} = 1815.\text{ft}$

CN tower is taller by 364 ft

$1815 - 1451 = 364$

1.3 Relating SI and Imperial Units

TRY THIS ONE...

The Fraser River is approximately 1375 km long.
The Tennessee River is approximately 886 mi. long.
Which river is longer? Justify your answer.

Tennessee

$$886\ \text{mi} \times \frac{1.6093\ \text{km}}{1\ \text{mi}} = 1425.8\ \text{km}$$

Tennessee River is longer 50.8 km.

$$\begin{array}{r} 1425.8 \\ -\ 1375.0 \\ \hline 50.8 \end{array}$$

1.3 Relating SI and Imperial Units

Example 4 Estimating and Calculating Using Unit Conversions

A truck driver knows that her semitrailer is 3.5 m high. The support beams of a bridge are 11 ft. 9 in. high. Will the vehicle fit under the bridge? Justify the answer.

SOLUTION

(Erase to reveal)

350 cm = 11.4829… ft.

This measurement is a little less than $11\frac{1}{2}$ ft. or 11 ft. 6 in., so the vehicle will fit under the bridge.

CHECK YOUR UNDERSTANDING

$11\text{ ft } \frac{9}{12} = 11.75\text{ ft}$

Bridge

$11.75\text{ ft} \times \frac{1\text{ yd}}{3\text{ ft}} \times \frac{1\text{ m}}{1.0936\text{ yd}} = 3.58\text{ m}$

It will fit (barely)

1.3 Relating SI and Imperial Units

HOMEWORK...

Worksheet - Converting Measurements.docx

HOMEWORK...

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Attachments

Worksheet - Converting Measurements.docx