

WARM-UP...

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.



a) CN $553.3 \text{ m} \times \frac{3.2808 \text{ ft}}{1 \text{ m}} = 1815.27 \text{ ft}$

Sears $1451 \text{ ft} \times \frac{1 \text{ m}}{3.2808 \text{ ft}} = 442.3 \text{ m}$

c)

1815.27 - 1451	364.27	ft
553.3 - 442.3	111	m

 Difference

HOMWORK Solutions...

Name : _____ Score : _____

Teacher : _____ Date : _____

Converting English and Metric

- 1) 22 miles = 35.41 kilometers
- 2) 12 yards = 10.97 meters
- 3) 10 miles = 16.09 kilometers
- 4) 12.12 miles = 19.5 kilometers
- 5) 5.91 inches = 15 centimeters
- 6) 9.84 yards = 9 meters
- 7) 7 inches = 17.78 centimeters
- 8) 3.83 yards = 3.5 meters
- 9) 6.5 inches = 16.5 centimeters
- 10) 5.28 miles = 8.5 kilometers
- 11) 4.92 yards = 4.5 meters
- 12) 4 miles = 6.44 kilometers
- 13) 11 yards = 10.06 meters
- 14) 2 yards = 1.83 meters
- 15) 14.5 inches = 36.83 centimeters
- 16) 17 inches = 43.18 centimeters
- 17) 11.5 miles = 18.51 kilometers
- 18) 20.23 yards = 18.5 meters
- 19) 4.92 inches = 12.5 centimeters
- 20) 13.05 miles = 21 kilometers

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.

$$886 \cancel{\text{mi}} \times \frac{1.6093 \text{ km}}{1 \cancel{\text{mi}}} = 1428.8 \text{ km}$$


Tennessee



Example 3 Solving a Problem that Involves Unit Conversions

Alex is 6 ft. 2 in. tall. To list his height on his driver's license application, Alex needs to convert this measurement to centimetres.

What is Alex's height to the nearest centimetre?

 **SOLUTION** and estimate Alex is approximately 185 cm tall.
 (Erase to reveal) answer is reasonable.

$$\begin{array}{r}
 6 \times 12 = 72 \\
 + \quad 2 \\
 \hline
 \text{Total } 74 \text{ inches}
 \end{array}$$

$$74 \text{ in} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 188 \text{ cm}$$



CHECK YOUR UNDERSTANDING

TRY THIS ONE...

A retail fabric store advertises a storewide sale. It lists a certain material for \$0.89/yd. A fabric warehouse is selling the same material for \$0.93/m.

- a) Which store has the better price?
b) Use mental math and estimation to justify that the answer is reasonable.

Warehouse

$$\text{Store } \frac{\$0.89}{1 \text{ yd}} \times \frac{1.0936 \text{ yd}}{1 \text{ m}} = \$0.97/\text{m}$$



Canada → 110 km/h

$$\frac{110 \cancel{\text{km}}}{1 \text{ hr}} \times \frac{1 \text{ mi}}{1.6093 \cancel{\text{km}}}$$

US →
mph

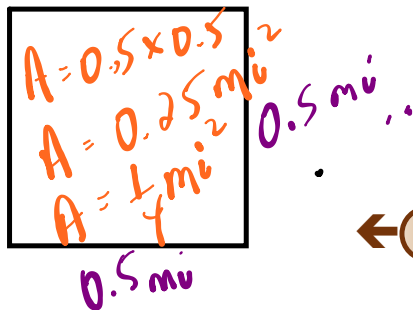
68.4 mi/hr

LAND AREAS...

18. The imperial unit to measure an area of land is the *acre*. During the initial agricultural expansion of the western provinces, the Canadian government offered 160 acres of land free to settlers who were willing to immigrate to Canada. Today, Canada uses the *hectare* to measure land area:

1 hectare \doteq 2.471 acres

- a) How many hectares did each settler receive?
- b) One hundred sixty acres is a square with a side length of one-half a mile. How many hectares are in one square mile?




$160 \text{ acres} \times \frac{1 \text{ hectares}}{2.471 \text{ acres}} = 64.8 \text{ hectares}$

b) 64.8 hectares...
xy

18. a) Approximately 65 hectares
b) Approximately 259 hectares

HOMework...

 Worksheet - 4.2 Practice & Word Problems.pdf

- 1) Complete the Practice Question #3
- 2) Do Word Problems #1 - 4, 6, 8

Attachments

Worksheet - 4.2 Practice & Word Problems.pdf