



1 What is the length of the paper clip?

A 1 in.

B  $1\frac{1}{8}$  in.

C  $1\frac{1}{2}$  in.



**MUST KNOW CONVERSIONS...**

$$1 \text{ m} = 1.0936 \text{ yd}$$

$$1 \text{ m} = 3.2808 \text{ ft}$$

$$1 \text{ mi.} = 1.6093 \text{ km}$$

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

# 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

**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.

*CN Tower - compared* ← ✓

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

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

c)  $553.3 - 442.3$   
 Difference 111 m

**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.

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

Tennessee River



9. Tennessee River


$$\frac{110 \cancel{\text{km}}}{1 \text{ hr}} \times \frac{1 \text{ mi}}{1.6093 \cancel{\text{km}}} = 68.4 \text{ mi/hr}$$

**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.

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

What is Alex's height to the nearest centimetre?

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

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



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



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



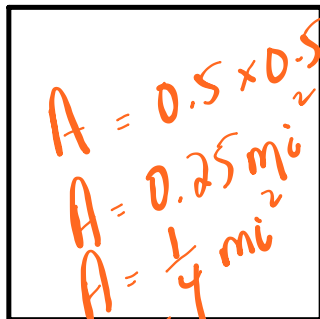
**LAND AREAS...**

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?

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



0.5 mi b)

64.8 hectares  
XY



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

...relating to and imperial units

# HOMework...

**Word Problems: #1 - 4, 6, 8**  
**Complete Backside #3**

Worksheet - 4.2 Practice & Word Problems.pdf



## Attachments

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Worksheet - 4.2 Practice & Word Problems.pdf