

# Chapter 1 Measurement

## Section 1.1 Imperial Measures of Length

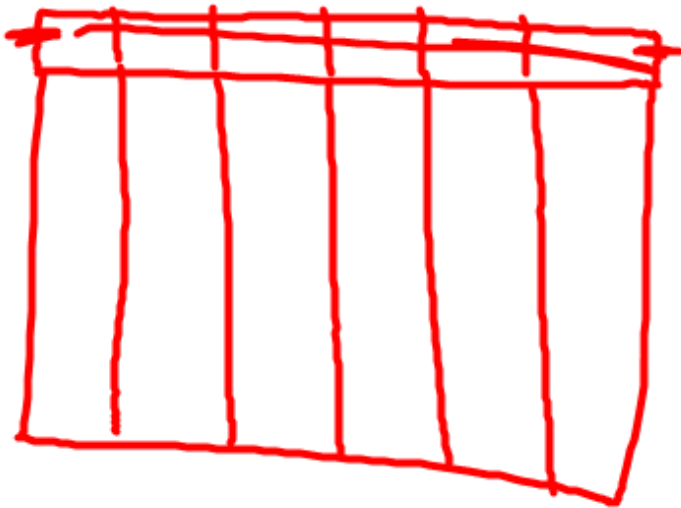
What is the standard unit of measure in Canada?

Metric  
System  
based powers  
10



What is the standard unit of measure in the United States?

Imperial



# Today we are going to learn how to convert units of measure in the Imperial System.

Imperial Unit	Abbreviation	Referent	Relationship between Units
Inch	in.	Thumb length	
Foot	ft.	Foot length	1 ft. = 12 in.
Yard	yd.	Arm span	1 yd. = 3 ft. 1 yd. = 36 in.
Mile	mi.	Distance walked in 20 min	1 mi. = 1760 yd. 1 mi. = 5280 ft.

## Example #1

**Unit analysis** is one method of verifying that the units in a conversion are correct.

Convert 7 yd. to:

i) feet    ii) inches

$$i) \quad 7 \cancel{\text{yd}} \left( \frac{3 \text{ ft}}{1 \cancel{\text{yd}}} \right) = 21 \text{ ft}$$

$$ii) \quad 7 \cancel{\text{yd}} \cdot \left( \frac{36 \text{ in}}{1 \cancel{\text{yd}}} \right) = 252 \text{ in}$$

## Example #2

Convert 62 in. to:

i) feet and inches

ii) yards, feet, and inches

$$\text{i) } \frac{62 \text{ in}}{12} = 5 \text{ ft } 2 \text{ in}$$

$$\text{ii) } \frac{62 \text{ in}}{36} \quad 1 \text{ y } \frac{26 \text{ in}}{12} \\ 1 \text{ y } 2 \text{ ft } 2 \text{ in}$$

### Example #3

Ben buys baseboard for a bedroom. The perimeter of the bedroom, excluding closets and doorway, is 37 ft.

- What length of baseboard is needed, in yards and feet?
- The baseboard material is sold by the yard. It costs \$5.99/yd. What is the cost of material before taxes?

$$\frac{37 \text{ ft}}{3}$$

$$12 \text{ yds } 1 \text{ ft}$$

$$13 (\$5.99) = \$77.87$$

## Example #4

Tyrell has 4 yd. of cord to make friendship bracelets. Each bracelet needs 8 in. of cord.

- a) How many bracelets can Tyrell make?
- b) Use unit analysis to check the conversions.



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#'s 7, 8, 10, 11, 14