

WARM-UP...Convert each of the following:

a) 78 in = 6 ft 6 in

b) 15 ft = 180 in

c) 2.5 mi = ^{15x12} 158400 inches

d) 250 " = 20.83 ft ^{20 ft 10 5/6"}

e) 500 yds = ^{500 x 3} 1500 ft

f) 7' 2" = 2 yd 1 ft 2 in

g) ^{1/3} 1 000 000 in = 15.9 mi

1 ft = 12 in
 1 yd = 3 ft
 1 mi = 1760 yd

^{2.5 mi} x $\frac{1760 \text{ yd}}{1 \text{ mi}}$ x $\frac{36 \text{ in}}{1 \text{ yd}}$

e) $500 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}} = 1500 \text{ ft}$

f) 7' 2" =>

g) $1000000 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{1 \text{ yd}}{3 \text{ ft}} \times \frac{1 \text{ mi}}{1760 \text{ yd}}$

Example 1 Converting between Imperial Units

a) Convert 5 yd. to:

i) feet 5 yd. = 15 ft. ii) inches 5 yd. = 180 in.

b) Convert 51 in. to:

ex i) feet and inches

51 in. = 4 ft 3 in.

ii) yards, feet, and inches

1 yd 1 ft 3 in

 **SOLUTION**
(Erase to reveal)



CHECK YOUR UNDERSTANDING

TRY THIS ONE...

Pierre-Marc converted 21 ft. 9 in. into yards, feet, and inches. His answer was 7 yd. 1 ft. 6 in. Is his answer correct? If your answer is no, show the correct conversion.

Handwritten work: $21\text{ft } 9\text{in} = 7\text{ yd} \cdot 9\text{ in}$

The number 21 is circled in orange. The number 9 is underlined in red. A red arrow points from a question mark above to the original 9 in. The number 9 in the answer is also underlined in red.



12. No; 21 ft. 9 in. = 7 yd. 9 in.

Example 2

Solving a Problem Involving Converting between Units

Anne is framing a picture. * Perimeter - distance around the figure
 The perimeter of the framed picture will be 136 in.

- a) What will be the perimeter of the framed picture in feet and inches?
- b) The framing material is sold by the foot. It costs \$1.89/ft. What will be the cost of material before taxes?



SOLUTION
 (Erase to reveal)

$$\frac{136}{12} = 11.\bar{3} \text{ ft}$$

a) $11 \text{ ft } 4 \text{ in}$

b) $12 \times 1.89 = \$22.68$



CHECK YOUR UNDERSTANDING



Example 3

Solving a Problem Involving Two Unit Conversions

The school council has 6 yd. of fabric that will be cut into strips 5 in. wide to make decorative banners for the school dance.

- a) How many banners can be made? 43 banners can be made.
- b) Use unit analysis to verify the conversions.

 **SOLUTION**
(Erase to reveal)

$$6 \text{ yd} \times \frac{36 \text{ in}}{1 \text{ yd}} = 216 \text{ in}$$

$$\# \text{ of strips} = \frac{216}{5} = 43$$



CHECK YOUR UNDERSTANDING

HOMework...

 Worksheet - Converting Imperial Lengths.docx

Attachments

Worksheet - Converting Imperial Lengths.docx