

Section 3.1

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Name _____

KEY

Converting Measurements and Costs

Convert the following measurements.

1) Convert 4 feet into inches

$$4 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = \boxed{48''}$$

2) Convert 2 yards into inches

$$2 \text{ yds} \times \frac{36 \text{ in}}{1 \text{ y}} = \boxed{72''}$$

$3 \text{ ft} = 36''$

3) Convert 5 yards into feet

$$5 \text{ y} \times \frac{3 \text{ ft}}{1 \text{ y}} = \boxed{15'}$$

4) Convert 2 miles into feet

$$2 \text{ mi} \times \frac{5280 \text{ ft}}{1 \text{ mi}} = \boxed{10,560'}$$

5) Convert 5 miles into yards

$$5 \text{ mi} \times \frac{1760 \text{ y}}{1 \text{ mi}} = \boxed{8800 \text{ y}}$$

6) 84 inches into feet

$$84'' \times \frac{1 \text{ ft}}{12 \text{ in}} = \boxed{7'}$$

7) 234 inches into yards

$$234'' \times \frac{1 \text{ y}}{36 \text{ in}} = \boxed{6.5 \text{ y}}$$

8) 24 feet into yards

$$24' \times \frac{1 \text{ y}}{3 \text{ ft}} = \boxed{8 \text{ y}}$$

9) 12320 yards into miles

$$12320 \text{ y} \times \frac{1 \text{ mi}}{1760 \text{ y}} = \boxed{7 \text{ mi}}$$

10) 47520 feet into miles

$$47520' \times \frac{1 \text{ mi}}{5280 \text{ ft}} = \boxed{9 \text{ mi}}$$

11) 7000 yards into miles

$$7000 \text{ y} \times \frac{1 \text{ mi}}{1760 \text{ y}} = \boxed{3.98 \text{ mi}}$$

12) 1 000 000 inches into miles

$$1000000'' \times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{1 \text{ y}}{3 \text{ ft}} \times \frac{1 \text{ mi}}{1760 \text{ y}}$$

Convert the following into yards, feet, and inches

13) 100 inches

$$100'' \times \frac{1 \text{ y}}{36 \text{ in}} = 2.78 \text{ y}$$

$0.78 \text{ y} \times \frac{3 \text{ ft}}{1 \text{ y}} = 2.34 \text{ ft}$

$0.34 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = 4.08 \text{ in}$

$\rightarrow 2 \text{ y } 2 \text{ ft } 4''$

14) 185 inches

$$185'' \times \frac{1 \text{ y}}{36 \text{ in}} = 5.14 \text{ y}$$

$0.14 \text{ y} \times \frac{3 \text{ ft}}{1 \text{ y}} = 0.42 \text{ ft}$

$0.42 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = 5.04 \text{ in}$

$\rightarrow 5 \text{ y } 5''$

Determine the following costs

- 15) Trim costs \$1.79 per linear foot. Tim buys 12 yards.

$$12 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}} = 36 \text{ ft}$$

$$36 \text{ ft} \times 1.79 = \boxed{\$64.44}$$

- 16) Trim costs \$1.79 per linear foot. Jim buys 60 inches.

$$60 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 5 \text{ ft}$$

$$5 \text{ ft} \times 1.79 = \boxed{\$8.95}$$

- 17) Trim costs \$1.79 per linear foot. Yim buys 78 inches.

$$78 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 6.5 \text{ ft}$$

$$6.5 \text{ ft} \times 1.79 = \boxed{\$11.64}$$

- 18) Trim costs \$1.79 per linear foot. Kim buys 81 inches.

$$81 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 6.75 \text{ ft}$$

$$6.75 \text{ ft} \times 1.79 = \boxed{\$12.08}$$

- 19) Martha needs 170 inches of fabric. The fabric is only sold by the yard. The fabric costs \$10.49 per yard.

a. How many yards does she need?

$$170 \text{ in} \times \frac{1 \text{ yd}}{36 \text{ in}} = \boxed{4.72 \text{ yd}}$$

b. How much will it cost?

By the yard \rightarrow buy 5 yd. $5 \times 10.49 = \boxed{\$52.45}$

c. How many inches will be left over?

$$\begin{array}{r} 5.00 \\ - 4.72 \text{ yd} \\ \hline .28 \text{ yd} \end{array}$$

$$.28 \text{ yd} \times \frac{36 \text{ in}}{1 \text{ yd}} = \boxed{10.08 \text{ in}}$$

$$\boxed{\$13.68}$$

- 20) Sammy is putting crown molding up around the walls of his living room. The room is rectangular and measures 14'6" x 20'3". The molding costs \$2.89 per foot. You cannot buy a fraction of a foot.

a. How many feet does he need?

$$20'3" + 20'3" + 14'6" + 14'6" = \boxed{70'}$$

b. Determine the cost

$$70 \text{ ft} \times 2.89 = \boxed{\$202.30}$$

c. How much is left over?

$$\boxed{6''}$$

$$\begin{array}{r} 20'3" \\ 20'3" \\ 14'6" \\ 14'6" \\ \hline 68'18" \\ + 6" \\ \hline 69'6" \end{array}$$