Computing Measures

You can add, subtract, multiply, and divide measures that are given in two units. For example, 1 yd 9 in. uses 2 units to measure one length.

Find: 1 lb 14 oz + 6 lb 10 oz

Add.

$$\begin{array}{r} 1 \text{ lb } 14 \text{ oz} \\ +\,6 \text{ lb } 10 \text{ oz} \\ \hline 7 \text{ lb } 24 \text{ oz} \end{array}$$

Change 24 ounces into pounds and ounces.

$\frac{24 \text{ oz}}{16 \text{ oz}} = 1 \text{ lb } 8 \text{ oz}$

Add 1 lb 8 oz to 7 lb.

$7 \text{ lb} + 1 \text{ lb } 8 \text{ oz} = 8 \text{ lb } 8 \text{ oz}$

Find: 5 × 4 gal 3 qt

Multiply.

$$\begin{array}{r} 4 \text{ gal } 3 \text{ qt} \\ \times \qquad 5 \\ \hline 20 \text{ gal } 15 \text{ qt} \end{array}$$

Change 15 quarts into gallons and quarts.

$\frac{15 \text{ qt}}{4 \text{ qt}} = 3 \text{ gal } 3 \text{ qt}$

Add 3 gal 3 qt to 20 gal.

$20 \text{ gal} + 3 \text{ gal } 3 \text{ qt} = 23 \text{ gal } 3 \text{ qt}$

Find: 12 ft 4 in. − 6 ft 9 in.

Subtract. You cannot subtract 9 in. from 4 in.

Change 12 ft into feet and inches. 12 ft = 11 ft 12 in.
Add 11 ft 12 in. to 4 in.
11 ft 12 in. + 4 in. = 11 ft 16 in.

$$\begin{array}{r} 12 \text{ ft } 4 \text{ in.} \rightarrow \\ -\,\,6 \text{ ft } 9 \text{ in.} \rightarrow \\ \hline \end{array} \qquad \begin{array}{r} 11 \text{ ft } 16 \text{ in.} \\ -\,\,6 \text{ ft } 9 \text{ in.} \\ \hline 5 \text{ ft } 7 \text{ in.} \end{array}$$

Find: 8 T 200 lb ÷ 6

Divide 8 T by 6.
Subtract.

$$\begin{array}{r} 1\,7\,\,7\,0\,0 \text{ lb} \\ 6\overline{)\,8\,\,7\,\,2\,0\,0 \text{ lb}} \\ \underline{6} \\ 2\,\,7 \\ \underline{2\,\,4} \\ 3\,\,2\,0\,0 \\ \underline{3\,\,0\,0\,\,} \\ 2\,0\,0 \\ \underline{1\,\,8\,0\,\,} \\ 2\,0 \\ \underline{1\,\,8} \\ 2 \end{array}$$

Change 2 T 200 lb to pounds.

2 T × 2,000 = 4,000 lb
4,000 lb + 200 lb = 4,200 lb

Divide 4,200 lb by 6.
Subtract.

$$\begin{array}{r} 4,2\,0\,0 \\ \hline 4,2\,0\,0 \\ \hline 0 \end{array}$$

Change each unit.

1. 30 ounces = ___ lb ___ oz 18 inches = ___ ft ___ in. 12 gallons = 11 gal ___ qt

Find each answer.

2. $\begin{array}{r} 5 \text{ gal } 2 \text{ qt} \\ +\,2 \text{ gal } 3 \text{ qt} \\ \hline 7 \text{ gal } 5 \text{ qt} = 8 \text{ gal } 1 \text{ qt} \end{array}$ $\begin{array}{r} 9 \text{ ft } 6 \text{ in.} \\ +\,4 \text{ ft } 8 \text{ in.} \\ \hline \end{array}$ $\begin{array}{r} 7 \text{ yd } 1 \text{ ft} \\ +\,3 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$

3. $\begin{array}{r} 8 \text{ yd } 1 \text{ ft} \\ -\,6 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$ $\begin{array}{r} 5 \text{ gal } 2 \text{ qt} \\ -\,3 \text{ gal } 3 \text{ qt} \\ \hline \end{array}$ $\begin{array}{r} 24 \text{ lb } 8 \text{ oz} \\ -\,10 \text{ lb } 12 \text{ oz} \\ \hline \end{array}$

4. $\begin{array}{r} 18 \text{ lb } 6 \text{ oz} \\ \times \qquad 4 \\ \hline \end{array}$ $\begin{array}{r} 5 \text{ ft } 8 \text{ in.} \\ \times \qquad 7 \\ \hline \end{array}$ $\begin{array}{r} 6 \text{ T } 500 \text{ lb} \\ \times \qquad 8 \\ \hline \end{array}$

5. $3\overline{)5 \text{ gal } 1 \text{ qt}}$ $8\overline{)10 \text{ lb } 8 \text{ oz}}$ $7\overline{)9 \text{ yd } 1 \text{ ft}}$

Practice in Computing Measures

Add the following quantities.

1.

12 ft 10 in.	5 lb 6 oz	7 hr 15 min
+ 5 ft 4 in.	+ 4 lb 10 oz	+ 4 hr 45 min

2.

2 yd 2 ft	3 T 500 lb	2 mi 1,200 yd
+ 3 yd 2 ft	+ 4 T 1,500 lb	+ 7 mi 700 yd

Subtract.

3.

5 yd 2 ft	3 qt 1 pt	18 lb 2 oz
− 2 yd 1 ft	− 2 qt	− 14 lb 6 oz

4.

5 gal 3 qt	5 T 1,000 lb	15 ft 9 in.
− 2 gal 2 qt	− 2 T 1,600 lb	− 5 ft 4 in.

Multiply each of these measures.

5.

4 lb 2 oz	5 T 800 lb	3 ft 9 in.
× 6	× 5	× 5

6.

3 gal 3 qt	2 yd 2 ft	6 qt 1 pt
× 4	× 3	× 4

Divide.

7. $3\overline{)8 \text{ min } 6 \text{ sec}}$ $3\overline{)4 \text{ T } 100 \text{ lb}}$ $5\overline{)8 \text{ yd } 1 \text{ ft}}$

8. $7\overline{)10 \text{ qt } 1 \text{ pt}}$ $4\overline{)5 \text{ days } 8 \text{ hr}}$ $6\overline{)8 \text{ lb } 4 \text{ oz}}$

Solve.

9. Pablo is 20 yr 8 mo old. His sister is 2 yr 10 mo younger. How old is Pablo's sister?

Answer _____

10. A bolt of cloth containing 25 yd 6 in. was cut into 6 pieces. How long was each piece?

Answer _____