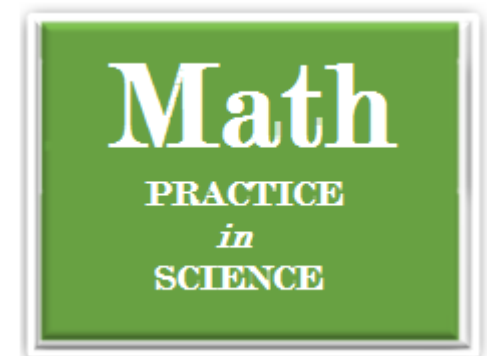


079 Math Practice



Changing Linear Measurements (Imperial System)

Multiply or divide when changing to other units of length. When you change from a large unit of length to a smaller unit, you multiply by the conversion factor. When you change from a small unit of length to a larger unit, you divide by the conversion factor.

| Unit of length | Conversion factor |
|----------------|-------------------|
| 1 foot | = 12 inches |
| 1 yard | = 36 inches |
| 1 yard | = 3 feet |
| 1 mile | = 5,280 feet |
| 1 mile | = 1,760 yards |

$$4 \text{ yards} = ? \text{ inches}$$

Large to Small —

Multiply by the conversion factor.

$$1 \text{ yard} = 36 \text{ inches}$$

$$36 \times 4 = 144$$

$$4 \text{ yards} = 144 \text{ inches}$$

Fill-in the missing numbers.

1. 72 inches = _____ feet

2. 3 miles = _____ yards

3. 7 feet = _____ inches

4. 1 mile = _____ inches

5. 147 feet = _____ yards

6. 4 miles = _____ feet

7. 48 inches = _____ feet

8. 10,560 feet = _____ miles

9. 288 inches = _____ yards

10. 23 feet = _____ inches

11. 5 feet = _____ inches

12. 9 yards = _____ feet

13. 14 feet = _____ inches

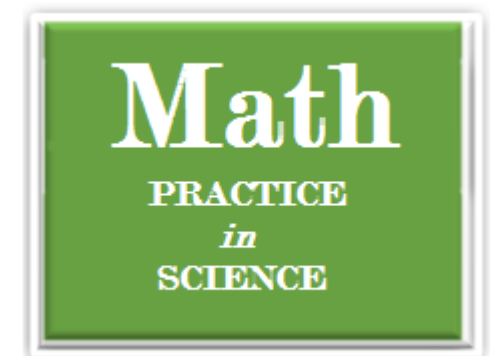
14. 156 inches = _____ feet

15. 17,600 yards = _____ miles

16. 18 feet = _____ inches

Science students should realize that the metric system (SI system) is used in scientific research as well as in almost every other country around the world. This worksheet uses the Imperial System which has traditionally been used in the United States. The SI system makes conversions simple when compared to the problems presented here (using the Imperial System). Familiarity with converting one unit of measure into another is a useful skill – whether using the SI system or the Imperial system.

080 Math Practice



Adding and Subtracting Linear Measurements (Imperial System)

When you add or subtract measurements, you can only combine units that are the same. You can add feet to feet and inches to inches, but not inches to feet. Sometimes you have to change one unit to another.

$$12 \text{ inches} = 1 \text{ foot}$$

$$3 \text{ feet} = 1 \text{ yard}$$

Example: Find the answers.

$$\begin{array}{r} 2 \text{ yards} \quad 1 \text{ foot} \quad 8 \text{ inches} \\ + 1 \text{ yard} \quad 1 \text{ foot} \quad 7 \text{ inches} \\ \hline 3 \text{ yards} \quad 2 \text{ feet} \quad 15 \text{ inches} \end{array}$$

or

$$\begin{array}{l} 3 \text{ yards } 3 \text{ feet } 3 \text{ inches} \\ \text{(or } 4 \text{ yards } 3 \text{ inches)} \end{array}$$

$$\begin{array}{r} 2 \text{ yards} \quad 1 \text{ foot} \quad 20 \text{ inches} \\ - 1 \text{ yard} \quad 1 \text{ foot} \quad 9 \text{ inches} \\ \hline 1 \text{ yard} \quad 0 \text{ feet} \quad 11 \text{ inches} \end{array}$$

or

$$1 \text{ yard } 11 \text{ inches}$$

Find the answer to these problems.

1.

$$\begin{array}{r} 2 \text{ feet} \quad 8 \text{ inches} \\ + 1 \text{ foot} \quad 2 \text{ inches} \\ \hline \end{array}$$

2.

$$\begin{array}{r} 6 \text{ yards} \quad 2 \text{ feet} \quad 3 \text{ inches} \\ - 2 \text{ yards} \quad 1 \text{ foot} \quad 10 \text{ inches} \\ \hline \end{array}$$

3.

$$\begin{array}{r} 3 \text{ yards} \quad 1 \text{ foot} \quad 8 \text{ inches} \\ + 2 \text{ yards} \quad 1 \text{ foot} \quad 7 \text{ inches} \\ \hline \end{array}$$

4.

$$\begin{array}{r} 7 \text{ feet} \quad 3 \text{ inches} \\ + 9 \text{ feet} \quad 8 \text{ inches} \\ \hline \end{array}$$

5.

$$\begin{array}{r} 4 \text{ yards} \quad 2 \text{ feet} \quad 5 \text{ inches} \\ - 1 \text{ yard} \quad 2 \text{ feet} \quad 7 \text{ inches} \\ \hline \end{array}$$

6.

$$\begin{array}{r} 4 \text{ yards} \quad 8 \text{ inches} \\ - 2 \text{ yards} \quad 11 \text{ inches} \\ \hline \end{array}$$

7.

$$\begin{array}{r} 8 \text{ yards} \quad 10 \text{ inches} \\ + 3 \text{ yards} \quad 2 \text{ feet} \quad 7 \text{ inches} \\ \hline \end{array}$$

8.

$$\begin{array}{r} 2 \text{ yards} \quad 9 \text{ inches} \\ - 1 \text{ yard} \quad 2 \text{ feet} \quad 6 \text{ inches} \\ \hline \end{array}$$

This worksheet uses the Imperial System which has traditionally been used in the United States. The SI system makes adding and subtracting linear measurements much simpler.