

Adding and Subtracting Length Measurements

Example 1: Add.

$$\begin{array}{r} 6 \text{ yd } 2 \text{ ft} \\ + 3 \text{ yd } 2 \text{ ft} \\ \hline 9 \text{ yd } 4 \text{ ft} = 10 \text{ yd } 1 \text{ ft} \end{array}$$

Because 4 ft > 1 yd, rename 4 ft as 1 yd 1 ft. So the sum in simplest form is 9 yd + 1 yd + 1 ft, or 10 yd 1 ft.

Example 2: Subtract.

$$\begin{array}{r} 9 \text{ ft } 5 \text{ in.} \\ - 6 \text{ ft } 8 \text{ in.} \\ \hline \end{array}$$

Because 8 in. > 5 in., rename 9 ft 5 in. as 8 ft 17 in. so that you can subtract the inches.

$$\begin{array}{r} 8 \quad 17 \\ \cancel{9} \text{ ft } \cancel{5} \text{ in.} \\ - 6 \text{ ft } 8 \text{ in.} \\ \hline 2 \text{ ft } 9 \text{ in.} \end{array}$$

Add or subtract. When you add, be sure your answer is in simplest form. When you subtract, you may have to rename in order to have enough of a given unit to subtract.

1.
$$\begin{array}{r} 9 \text{ ft } 9 \text{ in.} \\ + 4 \text{ ft } 7 \text{ in.} \\ \hline \end{array}$$

2.
$$\begin{array}{r} 6 \text{ yd } 2 \text{ ft} \\ + 5 \text{ yd } 1 \text{ ft} \\ \hline \end{array}$$

3.
$$\begin{array}{r} 7 \text{ yd } 1 \text{ ft} \\ - 2 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$$

4.
$$\begin{array}{r} 8 \text{ ft } 0 \text{ in.} \\ - 2 \text{ ft } 9 \text{ in.} \\ \hline \end{array}$$

5.
$$\begin{array}{r} 89 \text{ ft } 10 \text{ in.} \\ + 76 \text{ ft } 5 \text{ in.} \\ \hline \end{array}$$

6.
$$\begin{array}{r} 20 \text{ yd } 1 \text{ ft} \\ - 19 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$$

Convert the measurements so that their units match the unit given in the answer. Then add or subtract. The abbreviation *mi* stands for *miles*.

7. $2 \text{ mi} - 560 \text{ ft} = \underline{\hspace{2cm}} \text{ ft}$ 8. $48 \text{ ft} - 48 \text{ in.} = \underline{\hspace{2cm}} \text{ ft}$

9. $10 \text{ mi} + 4,400 \text{ yd} = \underline{\hspace{2cm}} \text{ mi}$ 10. $8 \text{ in.} + 8 \text{ ft} + 8 \text{ yd} = \underline{\hspace{2cm}} \text{ in.}$