

Help for HW 05

Let's look at a similar problem: Adding two distances given in yards, feet, and inches. We know:

- There are 12 inches in one foot.
- There are 3 feet in one yard.

So, to add 3 yards, 2 feet, 10 inches together with 2 yards, 10 feet, 15 inches:

$$\begin{array}{r} 3 \text{ y} \quad 2' \quad 10'' \\ + \quad 2 \text{ y} \quad 10' \quad 15'' \\ \hline 9 \text{ y} \quad 2' \quad 1'' \end{array}$$

Here is how the addition is done:

First add the inches

$$10'' + 15'' = 25''$$

How many whole feet is that? $25 // 12 = 2$

How many inches are left over? $25 \% 12 = 1$

So, the final answer will have 1"

Next add the feet, including the extra 2 feet from when we added the inches

$$2' + 10' + 2' = 14'$$

How many whole yards is that? $14 // 3 = 4$

How many feet are left over? $14 \% 3 = 2$

So, the final answer will have 2'

Finally add the yards, including the extra 4 yards from when we added the feet

$$3 \text{ y} + 2 \text{ y} + 4 \text{ y} = 9 \text{ y}$$

So, the final answer will have 9 y

The final answer is then: 9 y 2' 1"