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:

```
    3 y   2'   10"
+   2 y  10'   15"
   ------------------
    9y    2'    1"
```

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 y + 2 y + 4 y = 9 y
So, the final answer will have 9 y

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

Applying this to Homework 5

This same process can be used for adding two angles given in degrees, minutes, and seconds, where we know

- There are 60 seconds in one minute
- There are 60 minutes in one degree

```
    14°   47'   35"
+   20°  135'   70"
   ------------------
    37°    3'   45"
```