

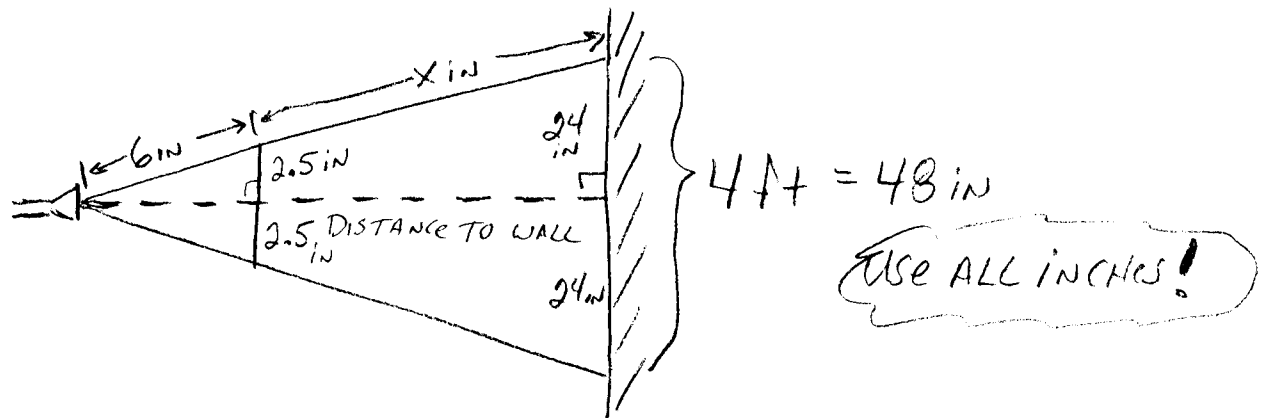
4-5-09/ME.C.

WHY MAKING A DRAWING IS IMPORTANT TO:

1. UNDERSTAND THE PROBLEM
2. SOLVE IT CORRECTLY
3. EXPLAIN WHAT YOU DID.

(EX) Problem 18 from Q4Hw2

Flashlight shines on hand, shadows on wall,
"How far from flashlight to wall?"



THE FIRST THING THE DRAWING MAKES CLEAR,
the distance to wall is NOT $6 + X$, it
is the straight line distance (dashed line).

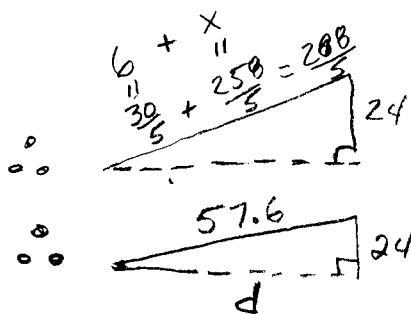
$$\text{Find } X \Rightarrow \frac{2.5}{24} = \frac{6}{(6+X)} \quad \therefore 2.5(6+X) = 6 \cdot 24$$

$$15.0 + 2.5X = 144$$

$$2.5X = 129$$

$$X = \frac{129 \cdot 2}{5} = \frac{258}{5}$$

$$2\frac{1}{2} = \frac{5}{2}$$



$$\left(\frac{288}{5}\right)^2 - 24^2 = d^2$$

$$(57.6)^2 - 24^2 = d^2$$

$$d = \sqrt{2741.76} \approx \boxed{52.4 \text{ inches} = d}$$