

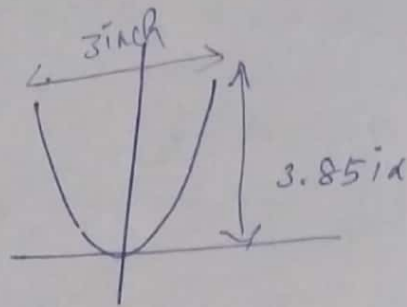
10.

Let set vertex at origin.
So the equation of the parabola is

$$x^2 = 4py$$

$$y = 3.85 \text{ inch}$$

$$x = \frac{3}{2} \Rightarrow 1.5$$



$$(1.5)^2 = 4 \times p \times 3.85$$

$$p = \frac{(1.5)^2}{4 \times 3.85} \Rightarrow 0.146$$

ft. Ach.

Therefore, the bulb should be placed at 0.146 ft. Ach.

$$11. \begin{aligned} 3x + 5y &= 4 \rightarrow \textcircled{1} \\ x - y &= 1 \rightarrow \textcircled{2} \end{aligned}$$

$$\textcircled{2} \times 5: 5x - 5y = 5 \rightarrow \textcircled{3}$$

$$\text{Add } \textcircled{1} + \textcircled{3}: 8x = 9$$

$$x = 9/8$$

Substitute $x = 9/8$ in equation $\textcircled{1}$

$$\frac{9}{8} - y = 1$$

$$y = \frac{9}{8} - 1 \Rightarrow \frac{1}{8}$$

$$x = \frac{9}{8}, y = \frac{1}{8}$$