

A) $x^2 + (2x + 7)^2 = 44^2$

B) $5x^2 + 28x + 49 = 1936$

$$x^2 + \frac{28}{5}x = \frac{1887}{5}$$

$$x^2 + \frac{28}{5}x + \frac{196}{25} = \frac{1887}{5} + \frac{196}{25}$$

$$\left(x + \frac{14}{5}\right)^2 = \frac{1887 \times 5 + 196}{25} = \frac{9631}{25}$$

$$\left(x + \frac{14}{5}\right) = \pm \frac{98}{5}$$

x can not be negative, so $x = \frac{84}{5} \approx 16$ inches

C) height is 32 inches