

Throw ball to Monkey

You throw a ball to a monkey who is on a platform 12 meters above and 5 meters to the right of you. Determine the speed and angle you should throw it such that it “just reaches” the monkey.

Y-direction

$$v_f^2 - v_i^2 = 2 a \Delta y$$

$$v_i = \text{sqrt}(2 \cdot 9.8 \cdot 12)$$
$$= 15.3 \text{ m/s}$$

$$y = \frac{1}{2} (v_f + v_i) t$$

$$t = 1.56 \text{ s.}$$

X-direction

$$v = d/t$$

$$= 5 \text{ m} / 1.56 \text{ s}$$

$$= 3.2 \text{ m/s}$$

