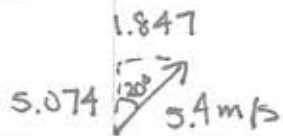


①



$$y = y_0 + v_{0y}t + \frac{1}{2}at^2$$

$$y = 1.2 + 5.074t - 4.9t^2$$

$$v_y = 5.074 - 9.8t \quad \text{highest height } v_y = 0$$

$$0 = 5.074 - 9.8t$$

$$t = .5178$$

$$y(t = .5178) = 1.2 + 5.074 * .5178 - 4.9 * (.5178)^2$$

$$y = \underline{\underline{2.514 \text{ m}}} \text{ (A)}$$

ground $y = 0$

$$0 = 1.2 + 5.074t - 4.9t^2$$

$$0 = 4.9t^2 - 5.074t - 1.2$$

$$\frac{5.074 \pm \sqrt{5.074^2 + 4(4.9)(1.2)}}{9.8}$$

$$\frac{5.074 \pm 7.019}{9.8}$$

$$t = 1.234$$

$$x = 1.847t \quad x(t = 1.234) = 1.847 * 1.234$$

$$= \underline{\underline{2.279 \text{ m}}} \text{ (B)}$$