



$$x = x_0 + v_{x_0} t \text{ @ B: } R \cos 20^\circ = 100 t_f \quad (1)$$

$$y = y_0 + v_{y_0} t - \frac{1}{2} g t^2 \text{ @ B: } R \sin 20^\circ = 173.2 t_f - \frac{9.81}{2} t_f^2 \quad (2)$$

$$(1): t_f = 0.00940 R$$

$$(2): R \sin 20^\circ = 173.2 (0.00940 R) - \frac{9.81}{2} (0.00940 R)^2$$

$$\underline{R = 2970 \text{ m}}$$