

Semana 3

$$1) \quad v_{0x} = 20 \text{ m/s} \quad y = 6 \text{ m} \quad \cos 0^\circ \\ g = 9.8 \text{ m/s}^2$$

$$x = v_{0x} t$$

$$t = \sqrt{\frac{2y}{g}}$$

$$x = 20 \text{ m/s} / 6 \times 1.1 \text{ seg}$$

$$t = \sqrt{\frac{2(6 \text{ m})}{9.8 \text{ m/s}^2}}$$

$$\underline{x = 22.2 \text{ m/s}}$$

$$t = \sqrt{1.21 \text{ seg}^2}$$

$$t = 1.1 \text{ seg}$$

$$2) \quad y = 100 \text{ m} \quad x = 80 \text{ m/s} \quad g = 9.8 \text{ m/s}^2$$

$$v_{0y} = \frac{x}{t}$$

$$t = \sqrt{\frac{2y}{g}}$$

$$\frac{v_{0x} = 80 \text{ m/s}}{4.52 \text{ seg}}$$

$$t = \sqrt{\frac{2(100 \text{ m})}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{20.41 \text{ seg}}$$

$$v_{0x} = 17.70 \text{ m/s}$$

$$\underline{t = 4.52 \text{ seg}}$$

$$3) v_{0x} = 5.5 \text{ m/s}$$

$$g = 9.8 \text{ m/s}^2$$

$$X = v_{0x} t$$

$$X = 5.5 \text{ m/s} \times 0.63 \text{ s}$$

$$X = 3.47 \text{ m}$$

$$t = \frac{\sqrt{2y}}{g}$$

$$t = \sqrt{\frac{(2)(9.8 \text{ m})}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{0.41054}$$

$$t = 0.63 \text{ s}$$

$$4) v_{0x} = 1.8 \text{ m/s}$$

$$t = 3 \text{ s}$$

$$g = 9.80 \text{ m/s}^2$$

$$a) y = \frac{1}{2} g t^2$$

$$y = \frac{1}{2} (9.8 \text{ m/s}^2) (3 \text{ s})^2$$

$$y = 44.1 \text{ m}$$

$$b) x = v_0 t$$

$$y = 1 \cdot \text{m} + 1/2 \times 9.8 \text{ s}^2$$

$$\underline{x = 5.17 \text{ m} + 9}$$

$$5) v_0 t = 26 \text{ cm/s} \quad y = 12 \text{ cm}$$

$$g = 9.8 \text{ m/s}^2$$

$$x = v_0 t$$

$$x = 26 \text{ cm/s} \quad y_0 = 5.8 \text{ s}^2$$

$$\underline{x = 9.82 \text{ cm}}$$

$$t = \sqrt{\frac{2y}{g}}$$

$$t = \sqrt{0.15 \text{ s}^2}$$

$$\underline{t = 0.38 \text{ s}}$$

$$t = \sqrt{\frac{(2)(72.6)}{9.80 \text{ cm/s}^2}}$$

$$9.80 \text{ cm/s}^2$$