

Problemas de la Gema 20

1. 80 m de Altura Proyectil 30 trs.

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

$$t = \sqrt{\frac{80 \times 2 \text{ m}}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{\frac{160}{9.8}}$$

$$t = \sqrt{16.33}$$

$$x = v_0 x^y$$

$$t = 4.04$$

$$x = 121.2 \text{ m}$$

2) $y = 312 \text{ m}$

$v_0 = 198 \text{ km/h}$
 $g = 9.8 \text{ m/s}^2$

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

$$t = \sqrt{63.6} = 7.92 \text{ s}$$

$$x = 55 \text{ m/s} \times 7.92 \text{ s} = 438.9 \text{ m}$$

de lanzamiento al ab 200m/s

$$3y = 100m \quad y = 90m \quad g = 9.8m/s^2$$

velocidad de lanzamiento.

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

$$\sqrt{\frac{200}{9.8}}$$

$$\sqrt{20.41}$$

$$t = 4.52s$$

$$44.30m/s.$$

4. $V_{oy} = 520 \text{ pies/s}$

$$t = 7s$$

$$V_{ox} = 158.50m/s$$

$$t = 7s.$$

$$y = 240.1m \text{ de altura.}$$

$$y = 1,109.5m \text{ de alcance horizontal.}$$

5. Se lanza $V_{oy} = 12m/s$

$$30m \text{ altura.}$$

$$\text{alcance horizontal.} =$$

$$\sqrt{\frac{60}{9.8}}$$

$$6.12$$

$$x = 2.09m$$

$$t = 2.47$$

6. Altura 2.8m

$$V_{0x} = 90 \text{ m/s.}$$

$$t = \sqrt{\frac{5.6}{9.8}}$$

$$\sqrt{5.71}$$

$$t = 2.39$$

$x = 215.01 \text{ m}$ de alcance.

$$V_x = 90 \text{ m/s}$$

7. Hora 1.20m

$$x = 1.53 \text{ m.}$$

$$V_0 = 1.04 \text{ m/s}$$

$$t = \sqrt{\frac{2.40}{9.8}}$$

$$0.24 \quad 0.49$$

8. Altura 20m

$$y = 24$$

$$t = 2.01$$

$$y_g = 9.69$$

