

TAREA DE PLATAFORMA

1) $V_{ox} = 30 \text{ m/s}$ $v = 30 \text{ m/s}$ $g = 9.8 \text{ m/s}^2$

A) $t = \sqrt{\frac{2y}{g}}$ $t = 4.04 \text{ seg}$

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

$$t = \sqrt{16.33 \text{ s}^2}$$

B) $x = V_{ox} t$ $t = 4.04 \text{ s}$ $x = ?$

$$x = 30 \text{ m/s} \times 4.04 = 121.2 \text{ m}$$

2) $V_{ox} = 198 \text{ km/h}$ $y = 312 \text{ m}$ $g = 9.8 \text{ m/s}^2$

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

$$t = \sqrt{\frac{2 \times 312 \text{ m}}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{63.67 \text{ s}^2}$$

$$t = 7.98 \text{ seg}$$



B

$$x = v_0 \times t$$

$$\frac{198}{1} = \frac{1000 \text{ m}}{1} = \frac{1}{36000 \text{ s}} = \frac{198000 \text{ m}}{36000 \text{ seg}}$$

$$55 \text{ m/s}$$

$$x = 55 \text{ m/s} \times 7.98 \text{ seg} = 438.9 \text{ m}$$

$$3) \quad x = 90 \text{ m/s} \quad y = 100 \text{ m/s} \quad g = 9.8 \text{ m/s}^2$$

$$t = \sqrt{\frac{2y}{g}} \quad t = 4.51 \text{ seg}$$

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

$$t = \sqrt{20.40 \text{ m/s}^2}$$

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

$$v_{0x} = 19.96 \text{ m/s}$$

$$v_{0x} = 90 \text{ m} \div 4.51 \text{ seg}$$

4) $V_{ox} = 520 \text{ pies/s}$ $t = 7 \text{ seg.}$

$$g = 32.2 \text{ pies/s}^2$$

A) Altitud a la que vuela el avión?

$$y = g \cdot t^2 \div 2$$

$$y = \frac{32.2 \text{ pies/s}^2 (7 \text{ seg})^2}{2}$$

$$y = \frac{1577.8 \text{ pies}}{2} = y = 788.9 \text{ pies}$$

B) Cual es su alcance horizontal

$$x = V_{ox} \cdot t$$

$$x = 520 \text{ pies/s} \times 7 \text{ seg} = x = 3640 \text{ pies}$$

5) $y = 30 \text{ m}$ $V_{ox} = 12 \text{ m/s}$ $g = 9.8 \text{ m/s}^2$
 $x = ?$

A) $x = V_{ox} \cdot t$

$$t = \sqrt{\frac{2 \times 30 \text{ m}}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{6.12 \text{ s}^2}$$

$$t = 2.47 \text{ seg}$$

$$x = 12 \text{ m/s} \times 2.47 \text{ seg} = x = 29.64 \text{ m}$$

6)

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

$$y = 28 \text{ mts}$$

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

A)

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

$$t = 2.38 \text{ seg}$$

$$t = \sqrt{\frac{2 \times 28 \text{ mts}}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{5.71 \text{ s}^2}$$

B)

$$x = V_{0x} \cdot t$$

$$x = 90 \text{ m/s} \times 2.38 \text{ seg}$$

$$x = 214.2 \text{ m}$$

C)

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

$$V_y = gt$$

$$V_y = 9.8 \text{ m/s}^2 \times 2.38 \text{ s} = 23.32 \text{ m/s}$$

$$V_R = \sqrt{(V_x)^2 + (V_y)^2}$$

$$V_R = \sqrt{(90 \text{ m/s})^2 + (23.32 \text{ m/s})^2}$$



$$V_R = \sqrt{8.643 \text{ m/s}^2}$$

$$V_R = 92.97 \text{ m/s}$$

7) $y = 1.2 \text{ m}$ $x = 7.53 \text{ m}$
 $g = 9.8 \text{ m/s}^2$

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

$$t = \sqrt{\frac{2 \times 1.2 \text{ m}}{9.8 \text{ m/s}^2}}$$

$$t = \sqrt{0.24 \text{ s}^2} = 0.49 \text{ s}$$

$$v_{ox} = v \div t$$

$$v_{ox} = \frac{7.53 \text{ m}}{0.49} = v_{ox} = 3.12 \text{ m/s}$$

8) $y = 20 \text{ m}$ $x = 24 \text{ m}$ $g = 9.8 \text{ m/s}^2$

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

$$t = \sqrt{4.08 \text{ s}^2}$$

$$t = \sqrt{\frac{2 \times 20 \text{ m}}{9.8 \text{ m/s}^2}}$$

$$t = 2.02 \text{ s}$$



$$V_{ox} = \frac{x}{t}$$

$$V_{ox} = \frac{24 \text{ mts}}{2.02 \text{ seg}}$$

$$V_{ox} = 11.88 \text{ mt/seg}$$