

$$1) v_{0x} = 30 \text{ m/s}$$

$$v = 80 \text{ m/s}$$

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

$$a) t = \frac{\sqrt{2x}}{g}$$

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

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

$$4.04 \text{ seg}$$

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

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

$$121.2 \text{ m}$$

$$2) v_{0x} = 198 \text{ km/h}$$

$$x = 312 \text{ m}$$

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

$$a) t = \frac{\sqrt{2xy}}{g}$$

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

$$t = \sqrt{63.06 \text{ s}^2}$$

$$= 7.94 \text{ seg}$$

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

$$198 = \frac{1000 \text{ m}}{1} = \frac{1}{3600 \text{ s}} = \frac{198,000 \text{ m}}{3600 \text{ s}} = 55 \text{ m/s}$$

$$x = 55 \text{ m/s} \times 7.94 \text{ s} = 436.7 \text{ m}$$

$$3) x = 90 \text{ m/s}$$

$$x = 100 \text{ m/s}$$

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

$$t = \frac{\sqrt{(2)(90 \text{ m/s})}}{9.8 \text{ m/s}^2}$$

$$t = \sqrt{20.40 \text{ m/s}^2} = 4.51 \text{ seg}$$

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

$$v_{0x} = 90 \text{ m/s} \div 4.51 \text{ seg} = 19.96 \text{ m/s}$$

$$4) V_{0x} = 520 \text{ pies/s}$$

$$t = 7 \text{ seg}$$

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

a) altura a la que vuela el avión

$$Y = gt^2 \div 2$$

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

$$Y = 1577.8 \text{ pies}$$

$$Y = 188.9 \text{ pies}$$

B) ¿cuál es su alcance horizontal

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

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

$$5) Y = 30 \text{ m}^2$$

$$V_{0x} = 12 \text{ m/s}$$

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

$$a) X = ?$$

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

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

$$t = \frac{\sqrt{60.125^2}}{9.8} = 2.47 \text{ seg}$$

$$X = V_{0x} t = 12 \times 2.47 \text{ seg} = \underline{X = 29.64 \text{ m}}$$