

EROKKETA ASKEA

①

$$y_0 = 25 \text{ m}$$

$$y = 0$$

$$\text{EROKKI} \rightarrow v_0 = 0!$$

$$y = y_0 + v_0 t - \frac{1}{2} g t^2$$

a)

$$0 = 25 - 4'9 t^2$$

$$t = \sqrt{\frac{2 \cdot 25}{-4'9}} = 2,23 \text{ s}$$

$$v = -g t = -22,1 \text{ m/s.}$$

②

$$y = 15 \text{ m}$$

$$y_0 = 0$$

$$v_0 = ?$$

$$v = v_0 - g t \rightarrow 0 = v_0 - 9'8 t \quad v_0 = 9'8 t$$

$$y = y_0 + v_0 t - 4'9 t^2$$

$$15 = 0 + v_0 t - 4'9 t^2$$

$$15 = 9'8 t^2 - 4'9 t^2$$

$$15 = 4'9 t^2$$

$$t = \sqrt{\frac{15}{4'9}} = 1,75 \text{ s}$$

$$v_0 = 17,15 \text{ m/s}$$

ordetkatu.

③

$$t = 10 \text{ s}$$

$$y = 0$$

$$v_0 = 0$$

$$v = v_0 - g t$$

$$v = -9'8 \cdot t$$

$$v = -98 \text{ m/s}$$

$$y = y_0 + v_0 t - \frac{1}{2} g t^2$$

$$0 = y_0 - 4'9 t^2$$

$$0 = y_0 - 4'9 \cdot 10^2$$

$$y_0 = 490 \text{ m}$$

④

$$v_0 > 0$$

$$y = 12'5 \text{ m}$$

a) $v_0 = ?$

b) $t = ?$

max denean $v = 0!$

$$v = v_0 - g t$$

$$0 = v_0 - 9'8 t$$

$$v_0 = 9'8 t$$

$$y = y_0 + v_0 t - \frac{1}{2} g t^2$$

$$12'5 = 0 + v_0 t - 4'9 t^2$$

$$12'5 = 9'8 t^2 - 4'9 t^2$$

$$t = 1'6 \text{ s}$$

$$v_0 = 15'7 \text{ m/s}$$

⑥

$$m = 250g = 0,25kg$$

$$y = 100m$$

$$v_0 = 0$$

a) $y = 0m$

$$y = y_0 + v_0 t - \frac{1}{2} g t^2$$

$$0 = 100 - 4,9 t^2$$

$$t = 4,55s //$$

b) $v = -gt$

$$v = -9,8 \cdot 4,5 = -44,1 m/s$$

c) BERDUA. EZ DAUDE
MASAREN MENPE!!

⑦

$$y = 50m$$

$$t = 2s$$

$$v = v_0 - gt$$

$$v = -15,2 - 9,8 \cdot t$$

$$v = -34,8 m/s //$$

$$y = y_0 - v_0 t - \frac{1}{2} g t^2$$

$$0 = 50 - v_0 \cdot 2 - 4,9 \cdot 2^2$$

$$v_0 = 15,2 m/s$$

⑧

$$a = 1,6 m/s^2$$

$$y = 5m$$

$$v = v_0 - at$$

$$v = -1,6 \cdot t$$

$$v = -1,6 \cdot 2,5$$

$$v = -4 m/s \Rightarrow -14,4 km/h$$

$$y = y_0 - v_0 t - \frac{1}{2} a t^2$$

$$0 = 5 - \frac{1}{2} \cdot 1,6 t^2$$

$$t = 2,5s$$

⑨

$$v_0 = 6 m/s$$

$$y_{max} \quad v = 0$$

$$v = v_0 - gt$$

$$0 = 6 - 9,8 t$$

$$t = 0,6s$$

$$y = y_0 + v_0 t - \frac{1}{2} g t^2$$

$$y = 6t - 4,9 t^2$$

$$y = 6 \cdot 0,6 - 4,9 \cdot 0,6^2$$

$$y = 1,84 m //$$