

MOTO UNIF. ACCELERATO (1D)

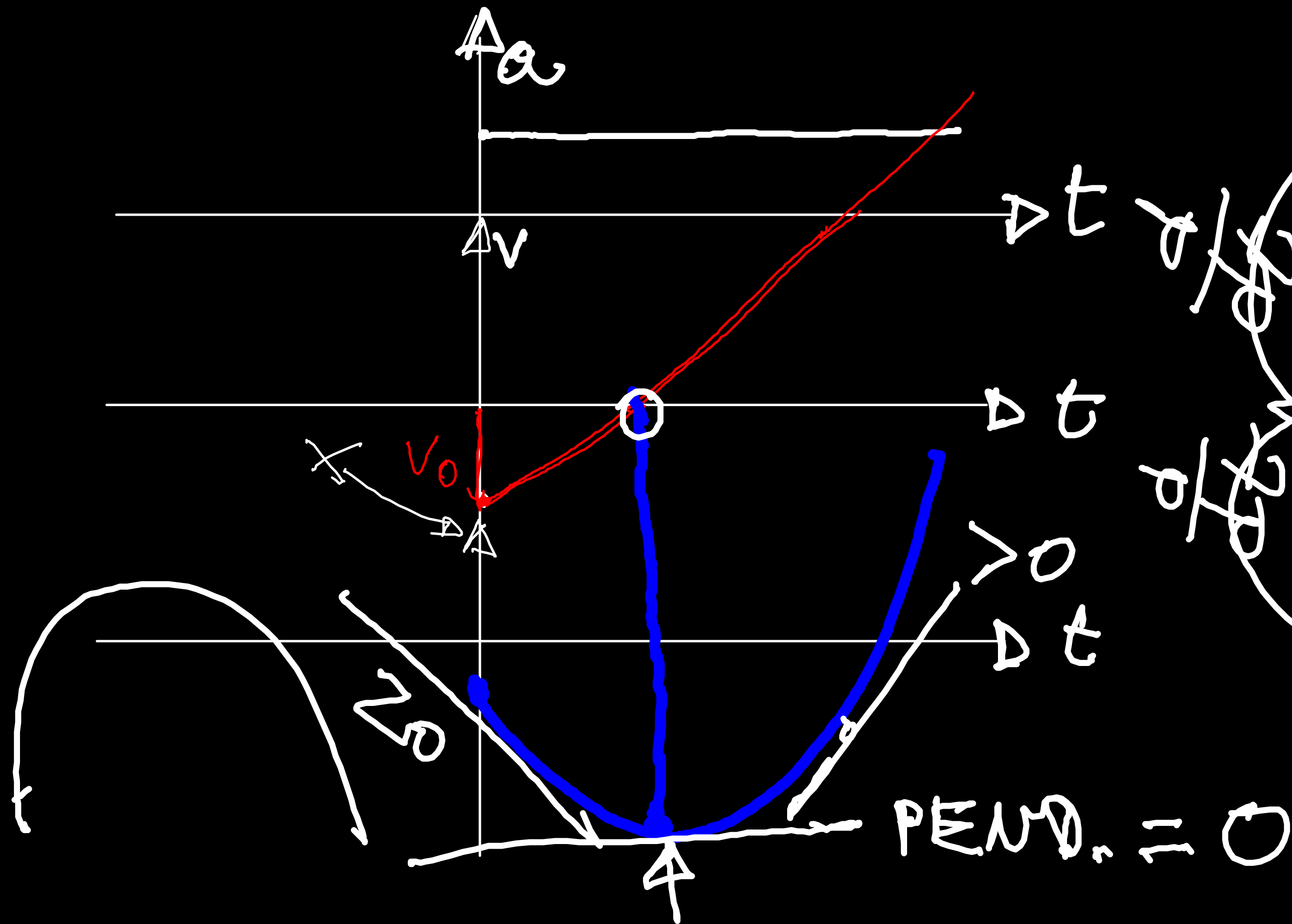
$$\vec{a} = \text{costante} \quad \vec{a} = (a_x, 0, 0)$$

$$\int \left. \begin{array}{l} a_x = \text{costante} \\ \rightarrow V(t) = V_0 + at \Rightarrow t = \frac{V(t) - V_0}{a} \end{array} \right\}$$

$$\int \left. \begin{array}{l} X(t) = X_0 + V_0 t + \frac{1}{2} at^2 \Rightarrow X(t) = X_0 + V_0 \frac{V(t) - V_0}{a} \\ + \frac{1}{2} a \frac{(V(t) - V_0)^2}{a^2} \end{array} \right\}$$

$$V_x^2(t) - V_{0x}^2 = 2a_x(x - x_0)$$

$$\overrightarrow{a_x > 0}$$



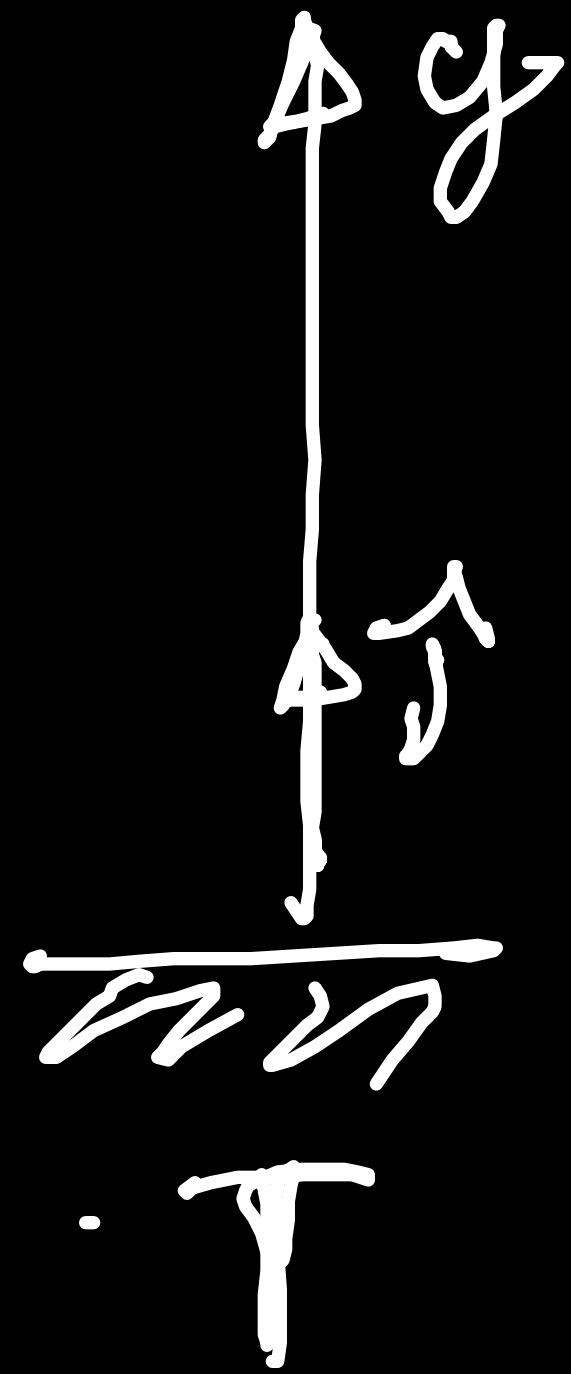
$$a_x = \text{const} > 0$$

$$v(t) = v_0 + at$$

$$x(t) = x_0 + v_0 t + \frac{1}{2} at^2$$

PEND. = 0

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$$\vec{a} = -g \vec{j}$$

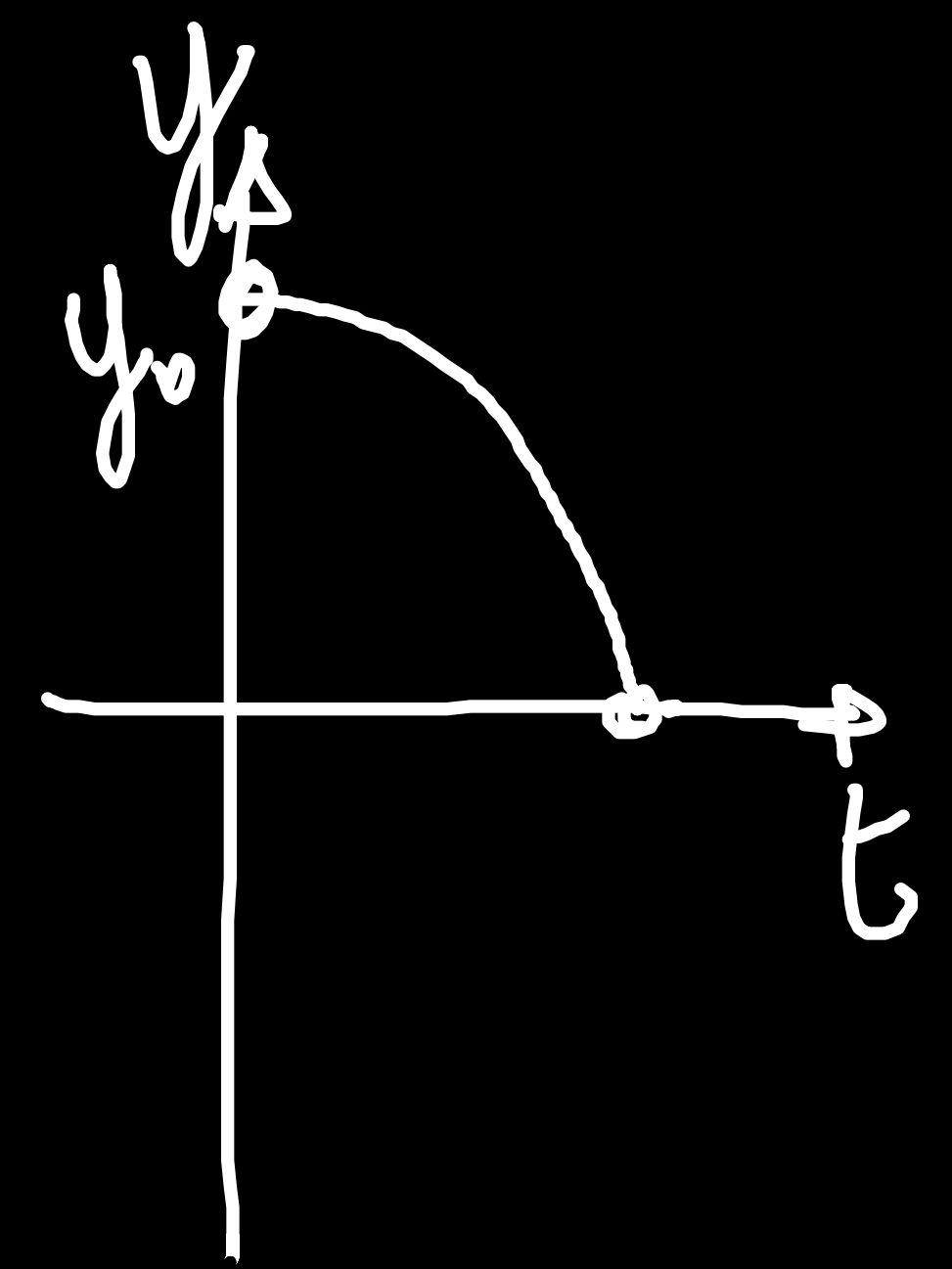
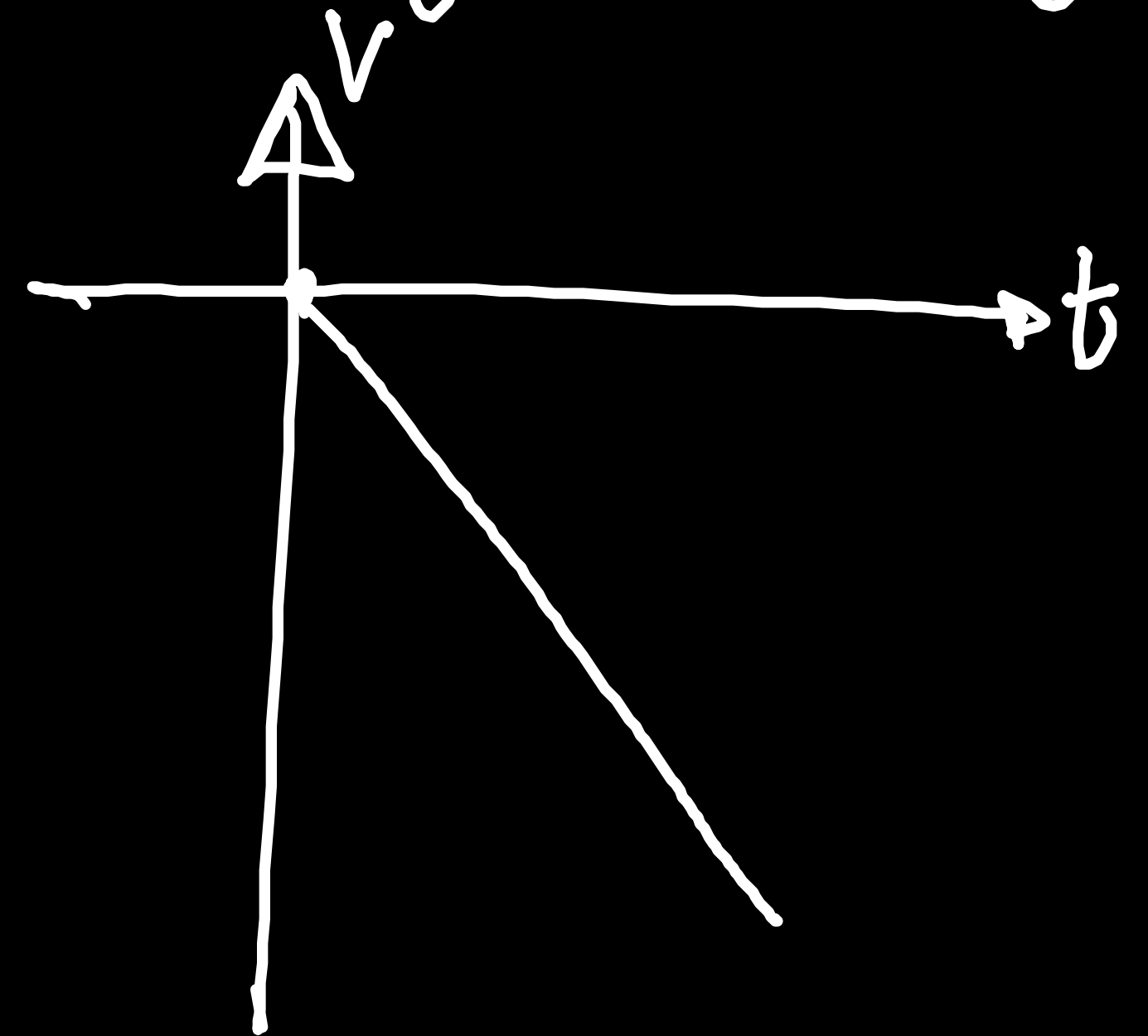
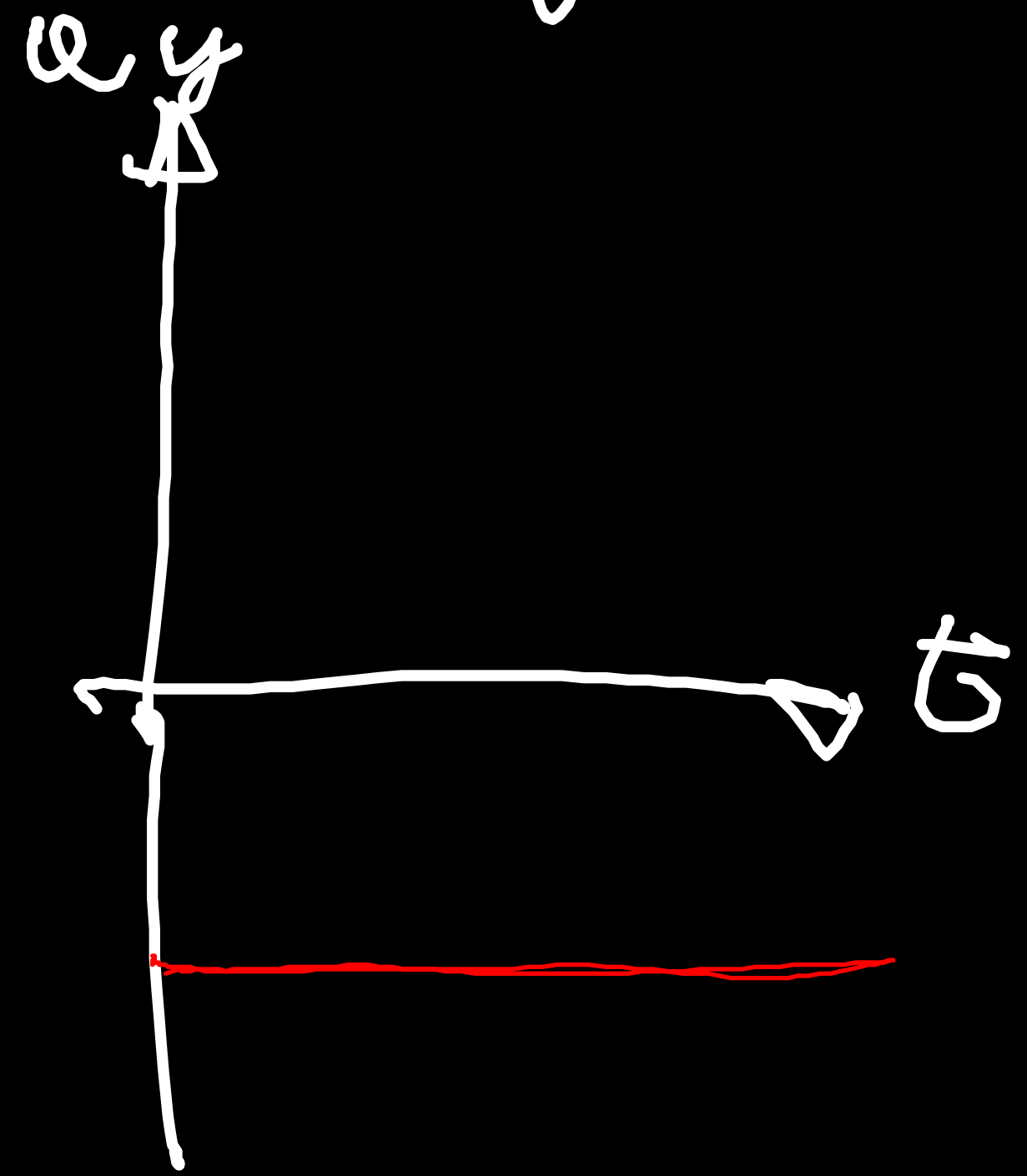
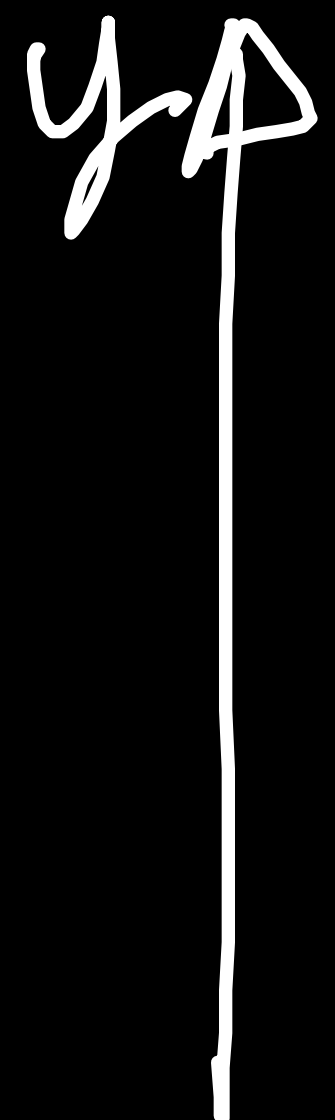
$$g = 9.81 \frac{m}{s^2}$$

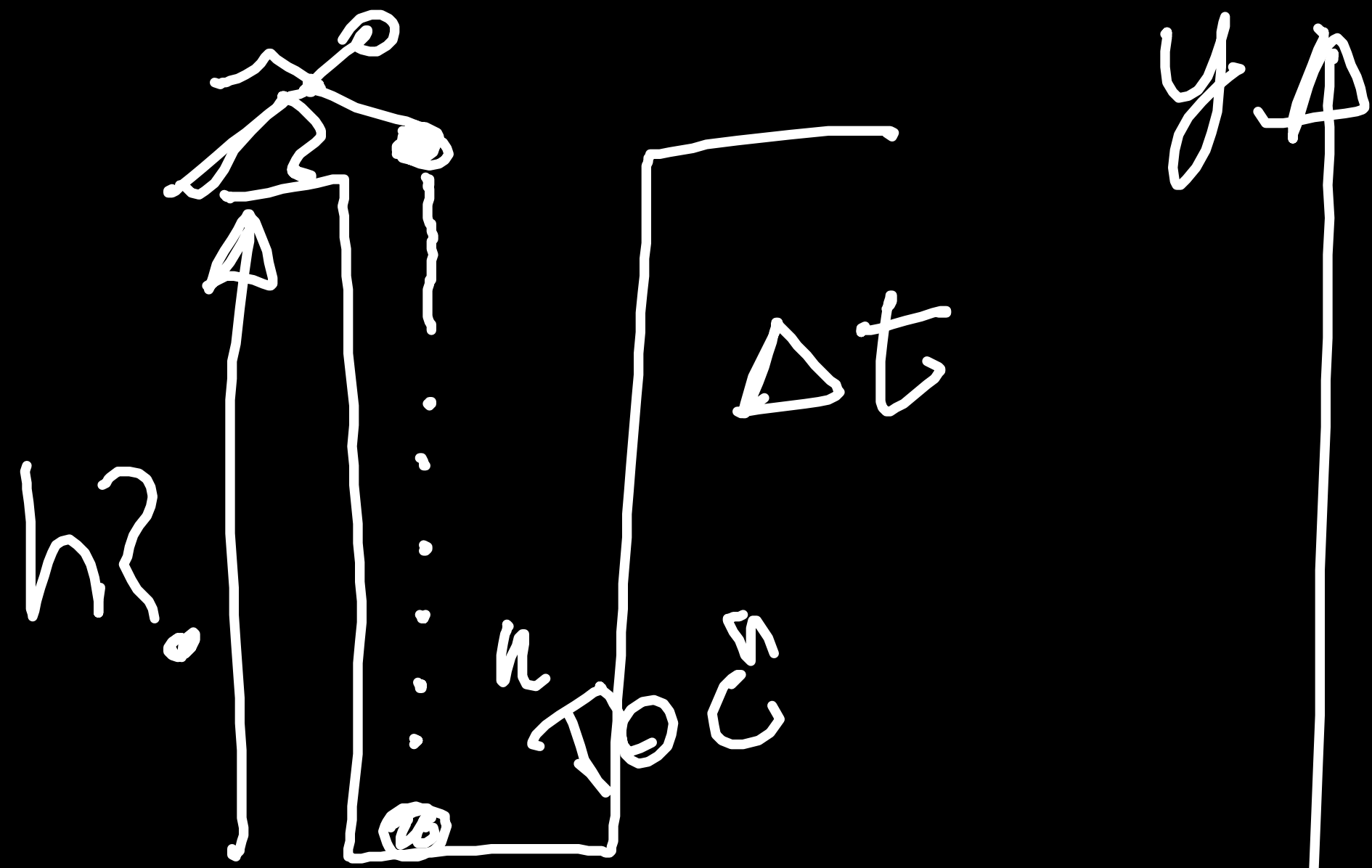


$$a_y = -g$$

$$v_y(t) = v_{0y} + a_y t = v_{0y} - g t$$

$$y(t) = y_0 + v_{0y} t - \frac{1}{2} g t^2$$





$h \approx 10 \text{ m}$

$\Delta t \approx 1.41 \text{ s}$

$$y(t) = h - \frac{1}{2}gt^2$$

$$0 = h - \frac{1}{2}g\Delta t^2$$

$$h = \frac{1}{2}g\Delta t^2$$

$$g = 9.81 \frac{\text{m}}{\text{s}^2}$$

