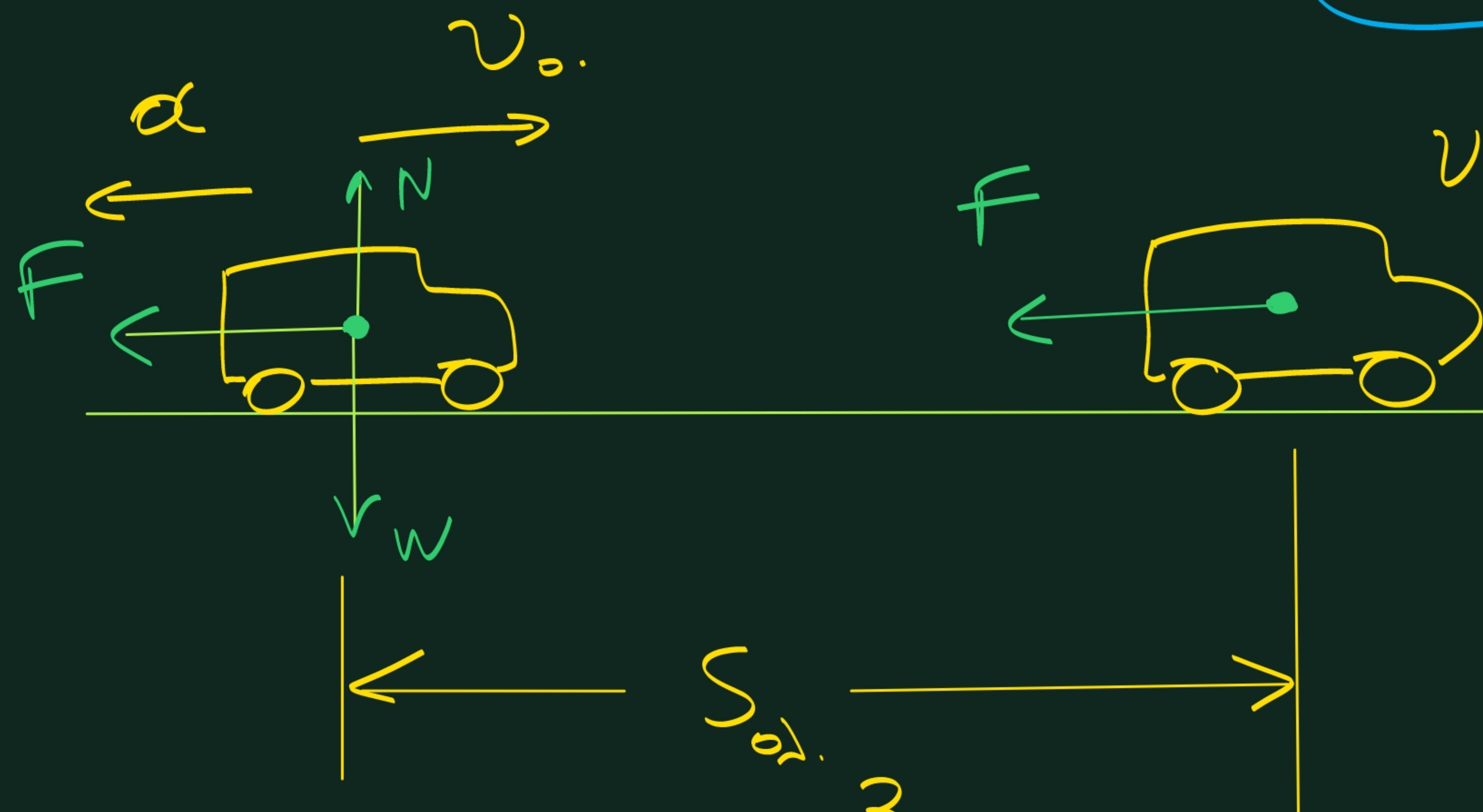


Αδυν. 17 βελ. 108.



$$m = 4.000 \text{ kg} = 4 \cdot 10^3 \text{ kg}.$$

$$F = 2 \cdot 10^4 \text{ N}$$

$$S_{\text{ολ.}} = 40 \text{ m}.$$

A) Η υίνηση είναι ευβαθυνόηση.

$$\Sigma F = ma \Rightarrow F = ma \Rightarrow 20.000 = 4.000 \cdot a \Rightarrow$$

$$a = \frac{20.000}{4.000} \Rightarrow a = 5 \text{ m/s}^2$$

Γνωστά: $v = v_0 - at \Rightarrow 0 = v_0 - at_1 \Rightarrow$

$$at_1 = v_0 \Rightarrow \boxed{t_1 = \frac{v_0}{a}} \text{ (χρόνος υίνησης)}$$

$$S = v_0 t - \frac{1}{2} at^2 \Rightarrow$$

$$S_{\text{ολ.}} = v_0 t_1 - \frac{1}{2} a t_1^2 = v_0 \cdot \frac{v_0}{a} - \frac{1}{2} \cdot \frac{v_0^2}{a} =$$

$$= \frac{v_0^2}{a} - \frac{v_0^2}{2a} = \frac{2v_0^2}{2a} - \frac{v_0^2}{2a} \Rightarrow \boxed{S_{\text{ολ.}} = \frac{v_0^2}{2a}}$$

$$A \propto: S_0 = \frac{v_0^2}{2a} \Rightarrow 40 = \frac{v_0^2}{2 \cdot 5} \Rightarrow$$

$$v_0^2 = 400 \Rightarrow v_0 = 20 \text{ m/s.}$$

$$B) t_1 = \frac{v_0}{a} = \frac{20}{5} = 4 \text{ sec.}$$

$$C) v = v_0 - at$$

