

Δραστηριότητα εελ. 168.

Πετρελαιοφόρο.

$$m = 18 \cdot 10^7 \text{ kg}$$

$$K = 9 \cdot 10^9 \text{ Joule}$$

$$K = \frac{1}{2} m v^2 \Rightarrow$$

$$9 \cdot 10^9 = \frac{1}{2} \cdot 18 \cdot 10^7 \cdot v^2 \Rightarrow$$

$$9 \cdot 10^9 = 9 \cdot 10^7 \cdot v^2 \Rightarrow v^2 = \frac{9 \cdot 10^9}{9 \cdot 10^7} \Rightarrow v^2 = 10^2 \Rightarrow$$
$$v = 10 \text{ m/s.}$$

Boeing 747

$$v = 200 \text{ m/s}$$

$$K = 7 \cdot 10^9$$

$$m = ;$$

$$K = \frac{1}{2} m v^2 \Rightarrow$$

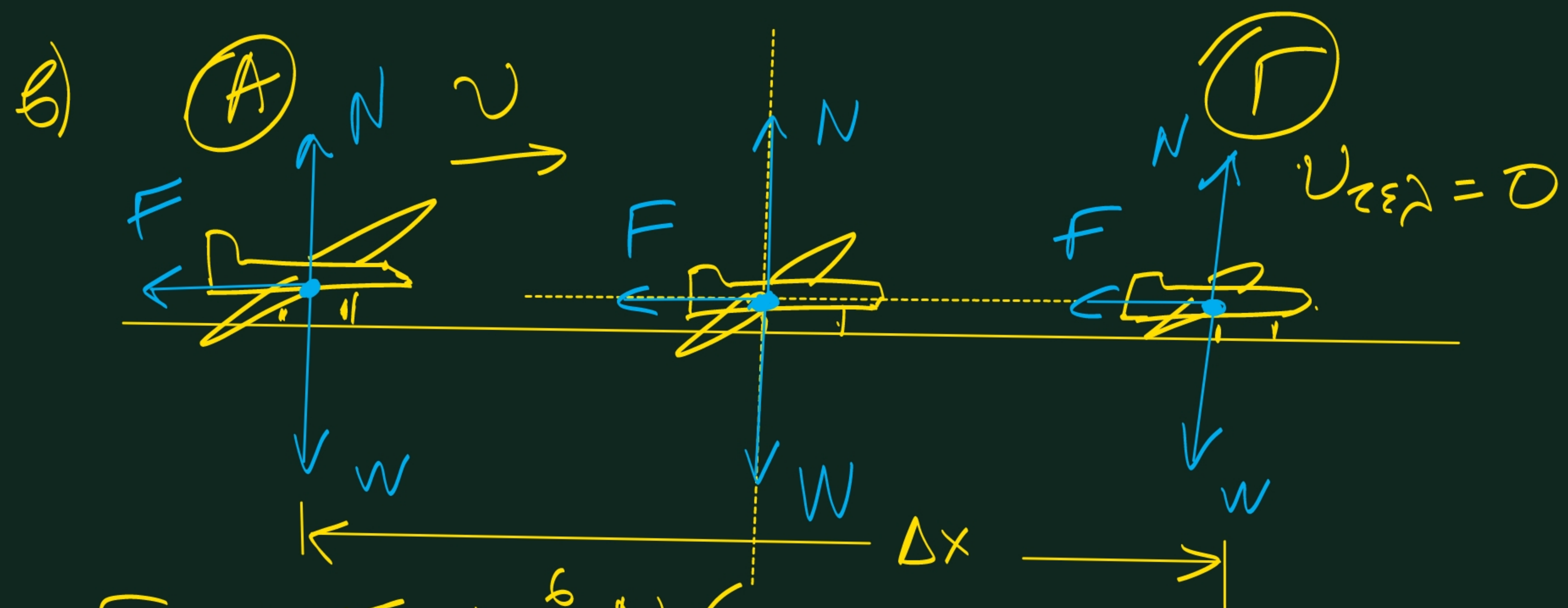
$$7 \cdot 10^9 = \frac{1}{2} \cdot m \cdot 200^2 \Rightarrow$$

$$7 \cdot 10^9 = \frac{1}{2} \cdot m \cdot 40.000 \Rightarrow$$

$$7 \cdot 10^9 = \frac{1}{2} \cdot m \cdot 4 \cdot 10^4 \Rightarrow$$

$$7 \cdot 10^9 = 2 \cdot 10^4 \cdot m \Rightarrow$$

$$m = \frac{7 \cdot 10^9}{2 \cdot 10^4} \Rightarrow m = 3,5 \cdot 10^5 \text{ kg}$$



$$m = 3,5 \cdot 10^5 \text{ kg}$$

$$F = 1,75 \cdot 10^6 \text{ N (εμβραδύουσα δύναμη)}$$

ΘΜΚΕ: (A) $\rightarrow$ (Γ)

$$\Delta K = \sum W \Rightarrow K_{\Gamma} - K_A = W_F + \cancel{W_N} + \cancel{W_W} \Rightarrow 0 - \frac{1}{2}mv^2 = -F \cdot \Delta x \Rightarrow$$

$$(\vec{N}, \vec{W} \perp \Delta \vec{x})$$

$$\frac{1}{2}mv^2 = F \cdot \Delta x \Rightarrow \frac{1}{2} \cdot 3,5 \cdot 10^5 \cdot 200^2 =$$

$$= 1,75 \cdot 10^6 \cdot \Delta x \Rightarrow$$

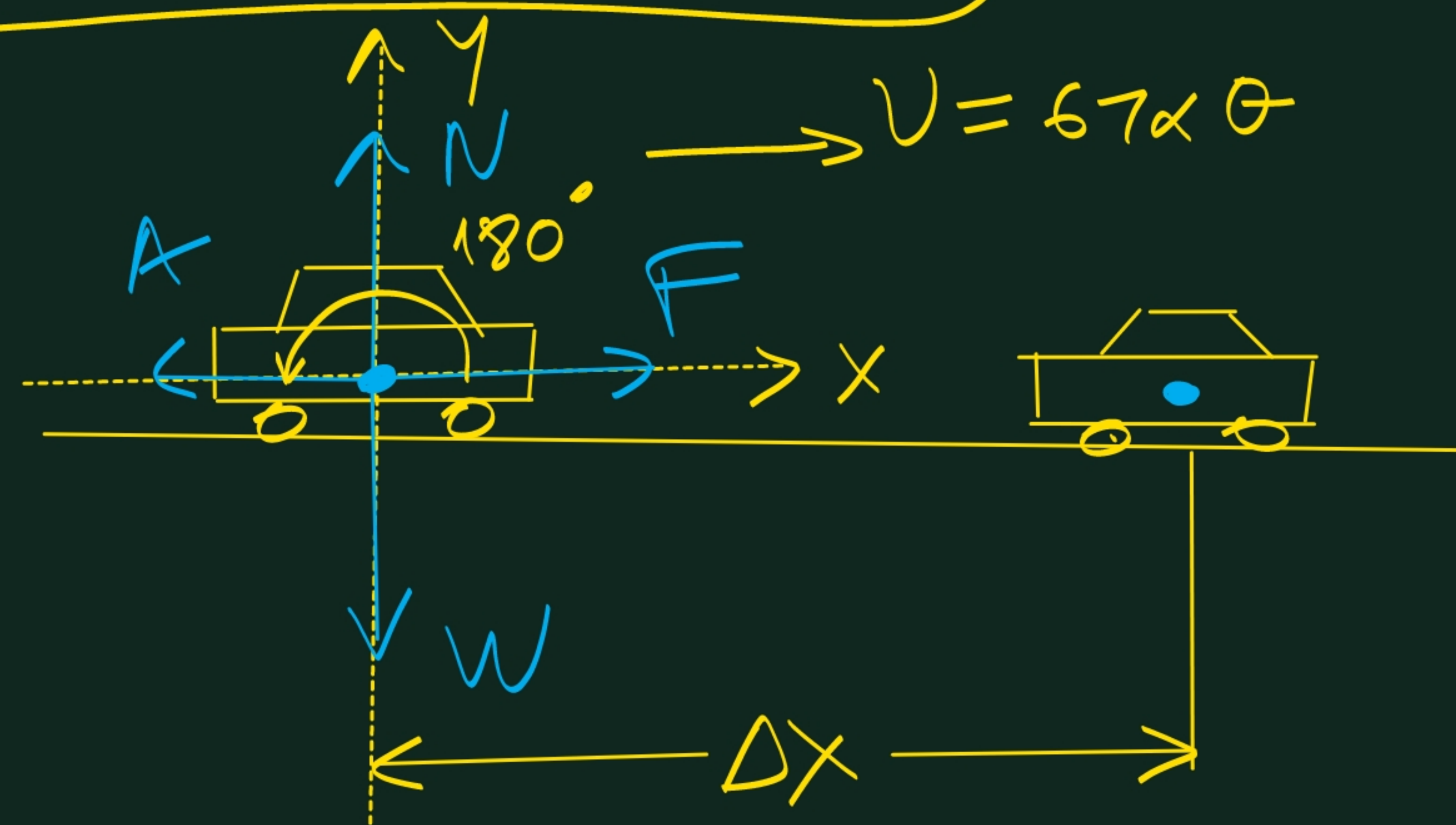
$$\frac{1}{2} \cdot 3,5 \cdot 10^5 \cdot 200^2 = 1,75 \cdot 10^6 \cdot \Delta x \Rightarrow$$

$$\frac{1,75 \cdot 10^5 \cdot 4 \cdot 10^4}{1} = \frac{1,75 \cdot 10^6 \cdot \Delta x}{1} \Rightarrow$$

$$\frac{4 \cdot 10^9}{10^6} = \frac{10^6 \cdot \Delta x}{10^6} \Rightarrow$$

$$\Delta x = 4 \cdot 10^3 \text{ m} = 4.000 \text{ m} = 4 \text{ km}$$

Apr. 1 6ελ. 193



$$V = 67\alpha\theta \Rightarrow \sum F_x = 0 \Rightarrow F - A = 0 \Rightarrow F = A$$

$$W_A = A \cdot \Delta x \cdot \cos 180^\circ \Rightarrow W_A = -A \cdot \Delta x$$

$$A = 4V = 4 \cdot 30 = 120 \text{ N}$$

$$\text{Apr} \alpha: W_A = -120 \cdot 50 \Rightarrow W_A = -6.000 \text{ Joule.}$$