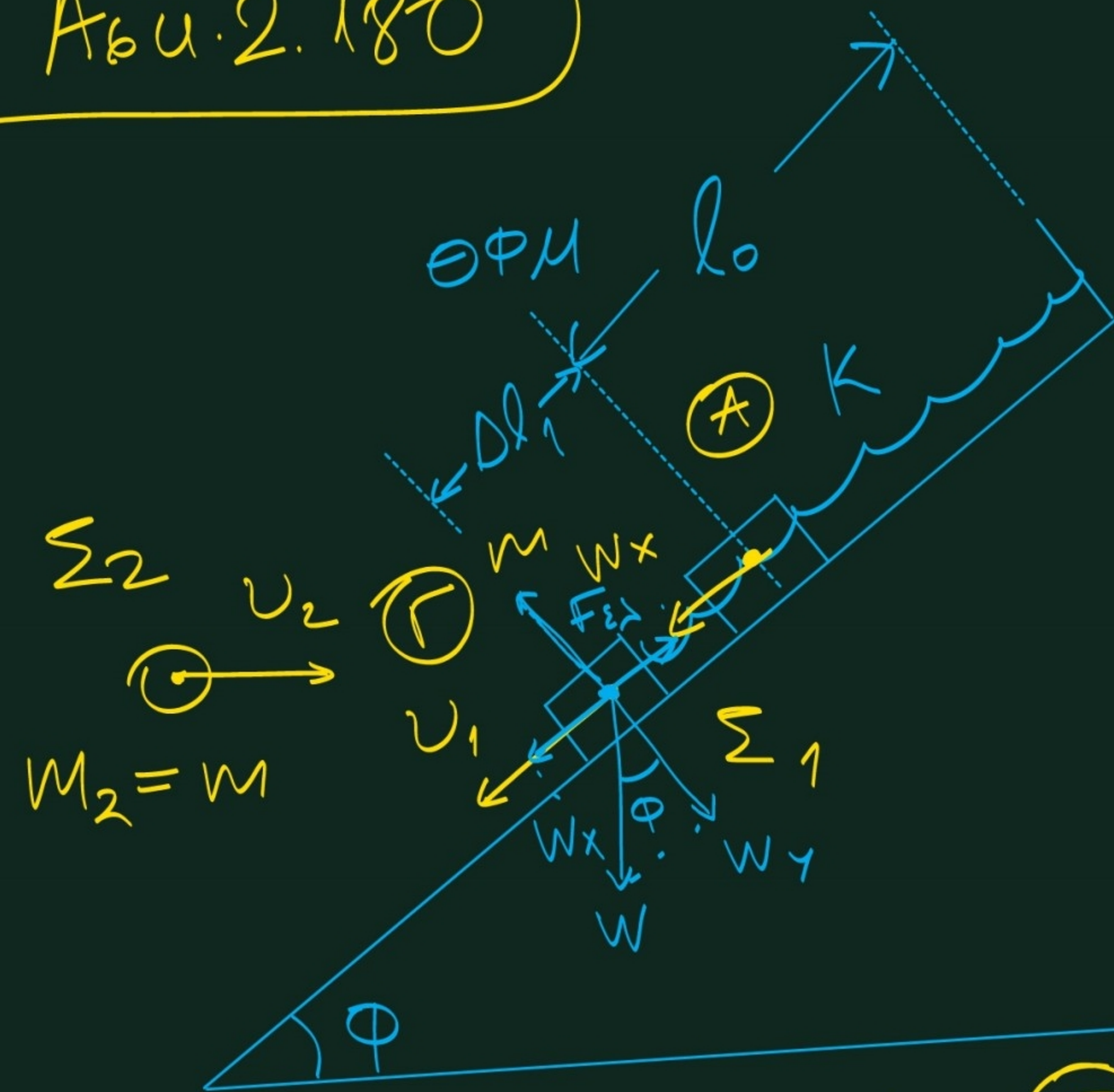


Αβυ.2.180)



$$m = 2 \text{ kg}$$

$$\phi = 30^\circ$$

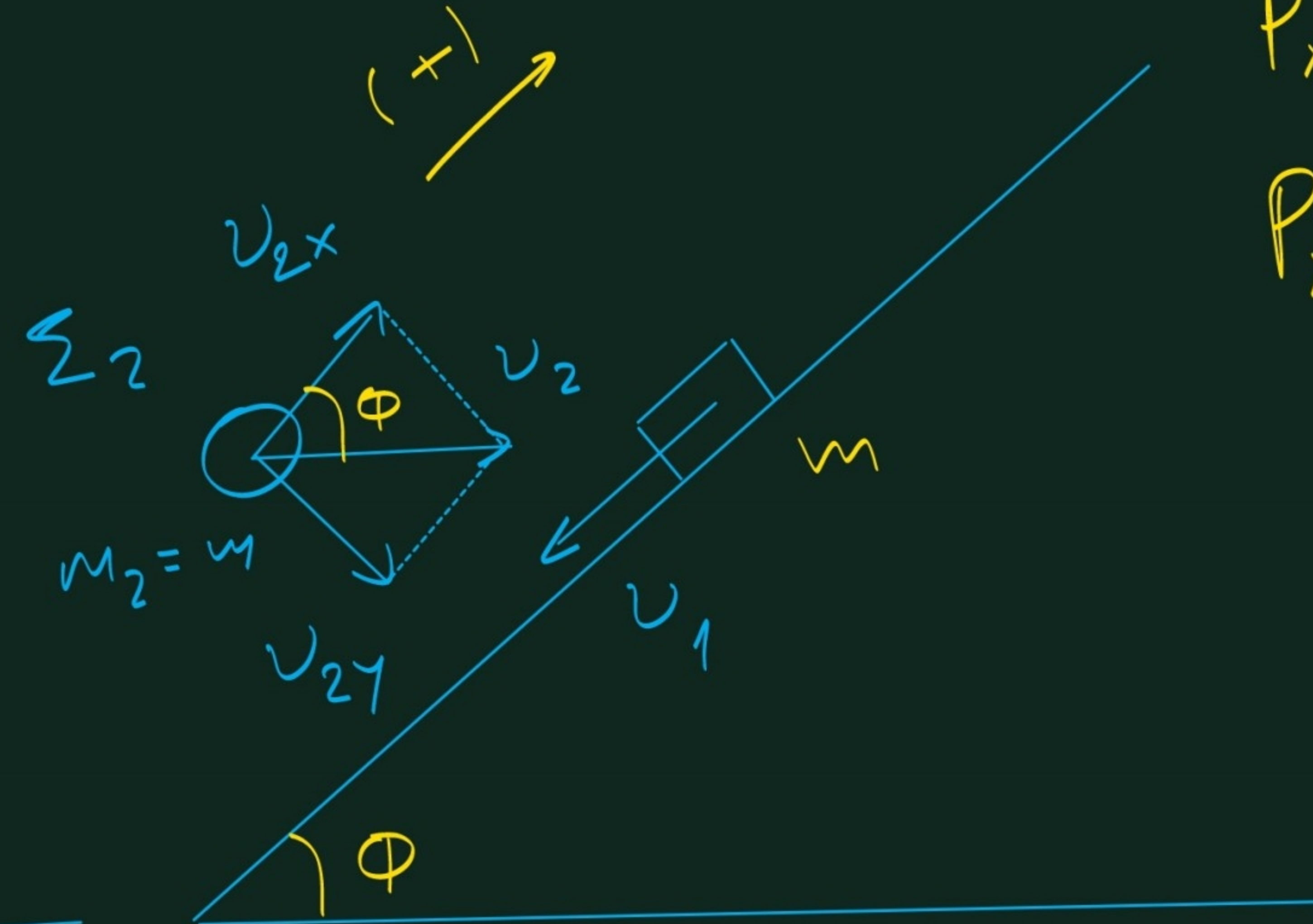
$$\kappa = 100 \text{ N/m}$$

Η θέση Γ είναι θέση ισορροπίας $\frac{2 \cdot 10 \cdot \frac{1}{2}}{100} = 0,1 \text{ m}$ στο ΘΙ

$$W_x = F_{\lambda} \Rightarrow mg \sin \phi = \kappa \cdot \Delta l_1' \Rightarrow \Delta l_1' = \frac{2 \cdot 10 \cdot \frac{1}{2}}{100}$$

$$\text{ΘΜΚΕ: } A \rightarrow \Gamma : K_r - K_A = W_x \cdot \Delta l_1 + U_{\lambda, A} - U_{\lambda, r} \Rightarrow \frac{1}{2} m v_1^2 = mg \sin \phi \cdot \Delta l_1 + 0 - \frac{1}{2} \kappa \cdot \Delta l_1^2 \Rightarrow$$

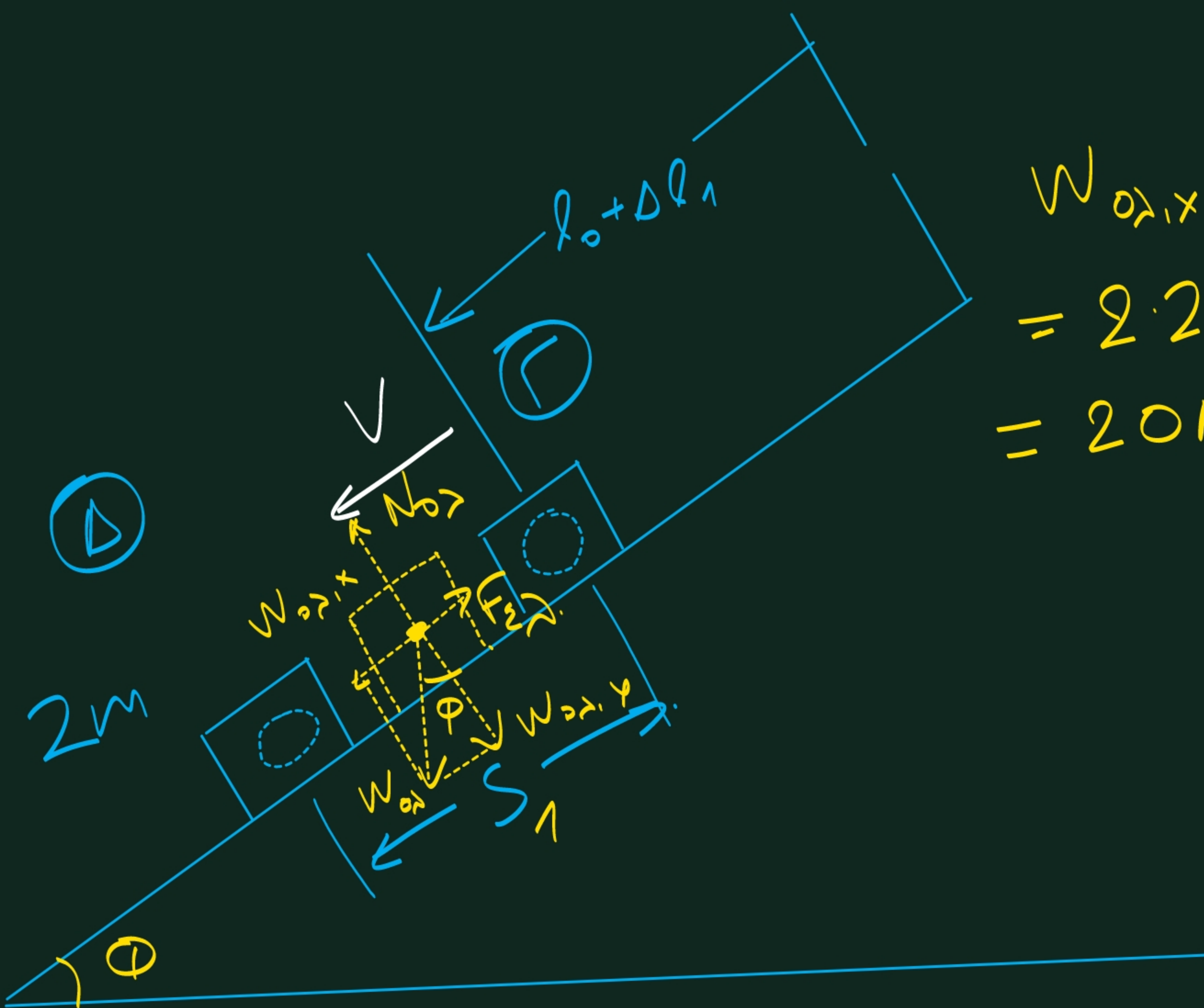
α) Το υεωλιγμένο εγινεδο είναι λείο, άρα η ορυή διατμρείτου στον άξονα x.



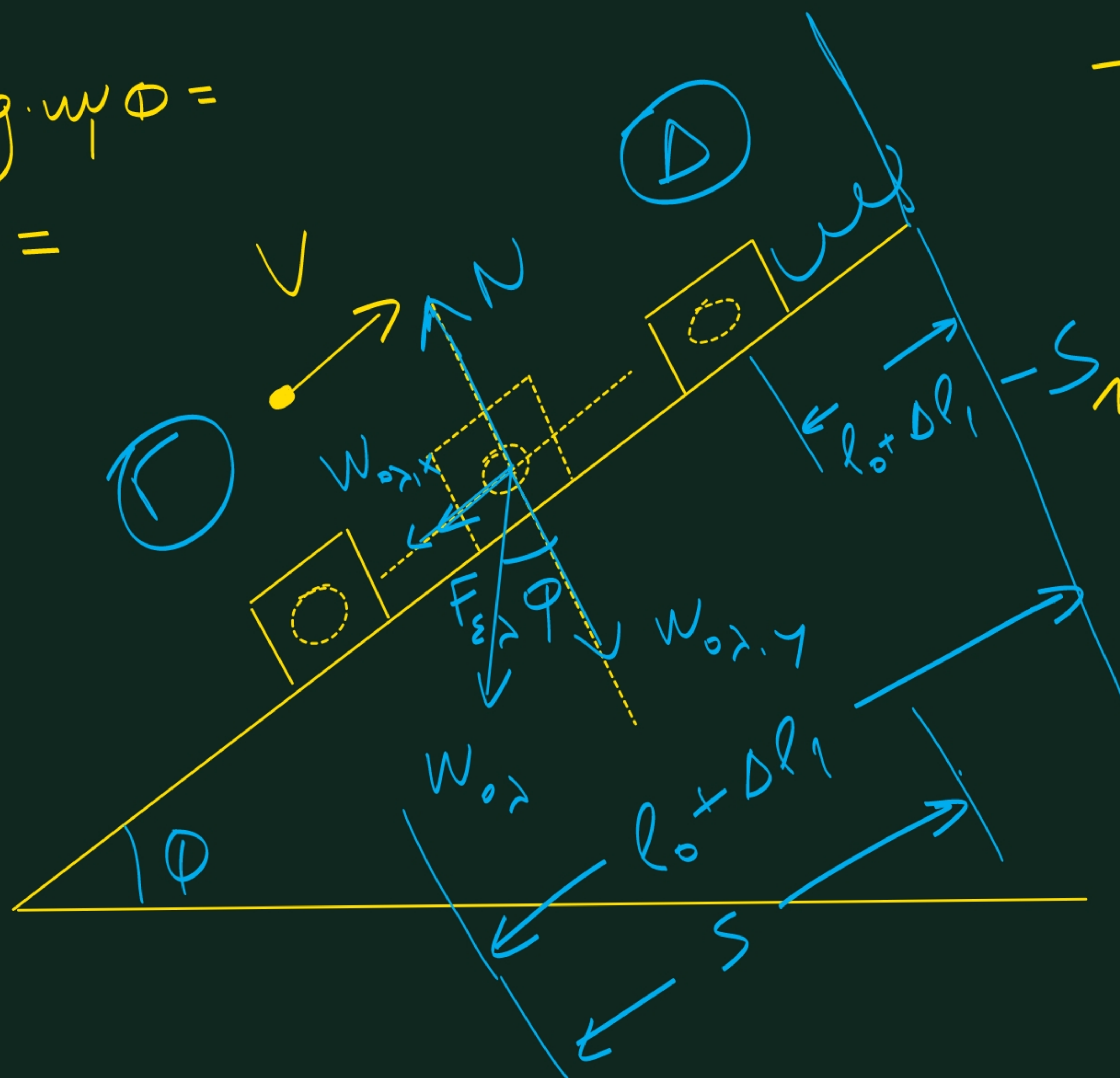
$$P_{x, \text{οριζ}} = m_2 v_{2x} - m v_1$$

$$P_{x, \text{οριζ}} = (m_2 + m) V$$

8)



$$W_{02,x} = 2mg \cdot \sin \phi = 2 \cdot 2 \cdot 10 \cdot \frac{1}{2} = 20 \text{ N}$$



$$-6 = -50S_1^2 \Rightarrow$$

$$S_1^2 = \frac{12}{100} \Rightarrow$$

$$S_1 = \frac{2\sqrt{3}}{10} =$$

$$\frac{\sqrt{3}}{5} \text{ m}$$

Το συσσωμάτωμα πάει από το

Γ στο Δ:

ΘΜΚΕ: Γ → Δ:

$$\Delta K = \Sigma W \Rightarrow 0 - \frac{1}{2} \cdot 2m \cdot V^2 = -W_{02,x} \cdot S_1 + U_{\epsilon 2, \Gamma} - U_{\epsilon 2, \Delta} \Rightarrow$$

$$-2 \cdot 3 = -20 \cdot S_1 + \frac{1}{2} k \cdot \Delta l_1^2 - \frac{1}{2} k (\Delta l_1 - S_1)^2 \Rightarrow$$

$$-6 = -20S_1 + \frac{1}{2} \cdot 100 \cdot 0,04 - \frac{1}{2} \cdot 100 (0,2 - S_1)^2 \Rightarrow -6 = -20S_1 + 2 - \frac{1}{2} \cdot 100 (0,04 - 0,4S_1 + S_1^2)$$

$$\Rightarrow -6 = -20S_1 + 2 - 2 + 20S_1 - 50S_1^2 \Rightarrow$$