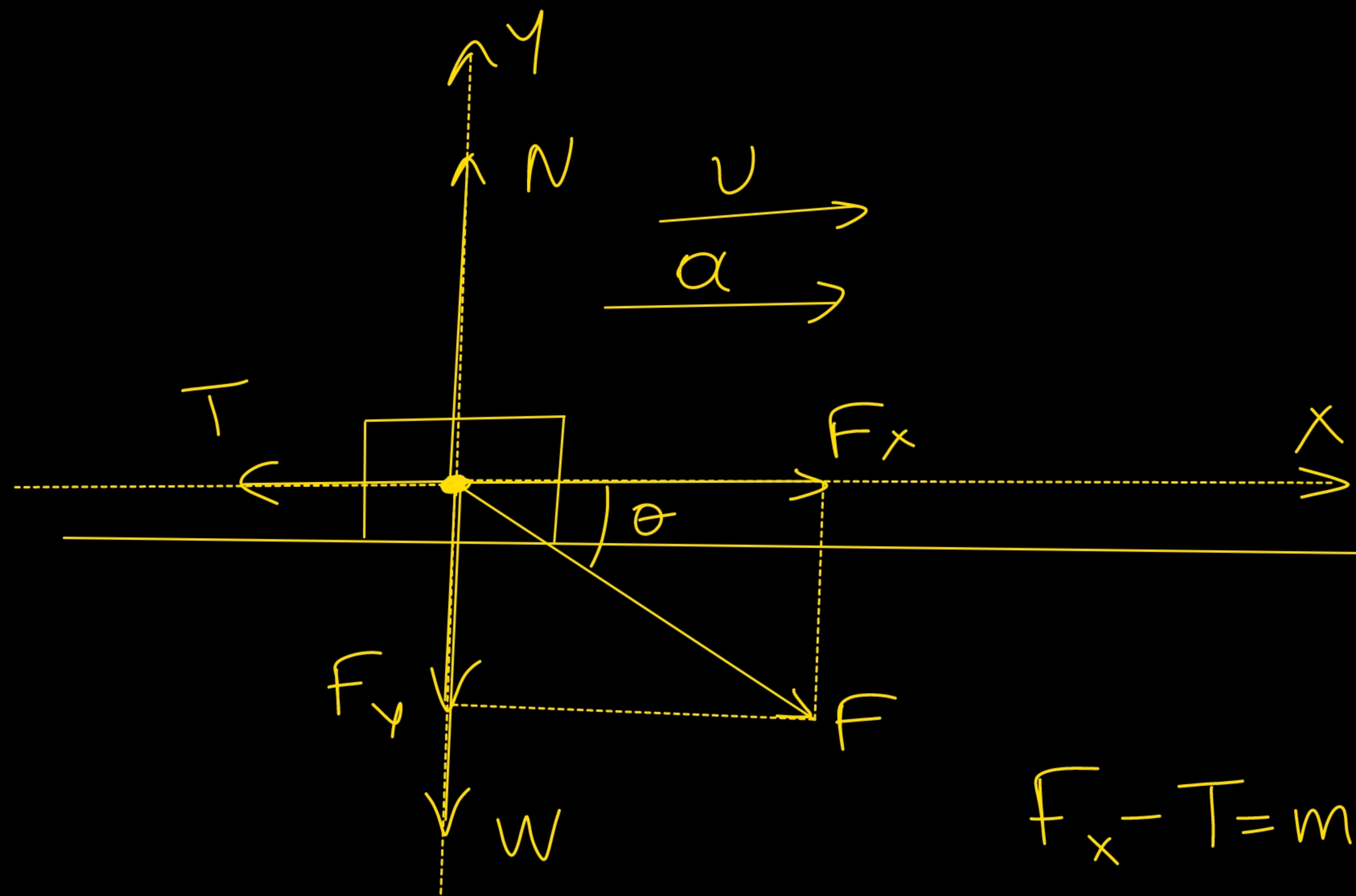




$$\Sigma F_y = 0 \Rightarrow N - F_y - W = 0 \Rightarrow$$

$$N - F \cdot \sin \theta - m \cdot g = 0 \Rightarrow$$

$$N = mg + F \cdot \sin \theta$$

$$\Sigma F_x = m \cdot a \Rightarrow F_x - T = m \cdot a$$

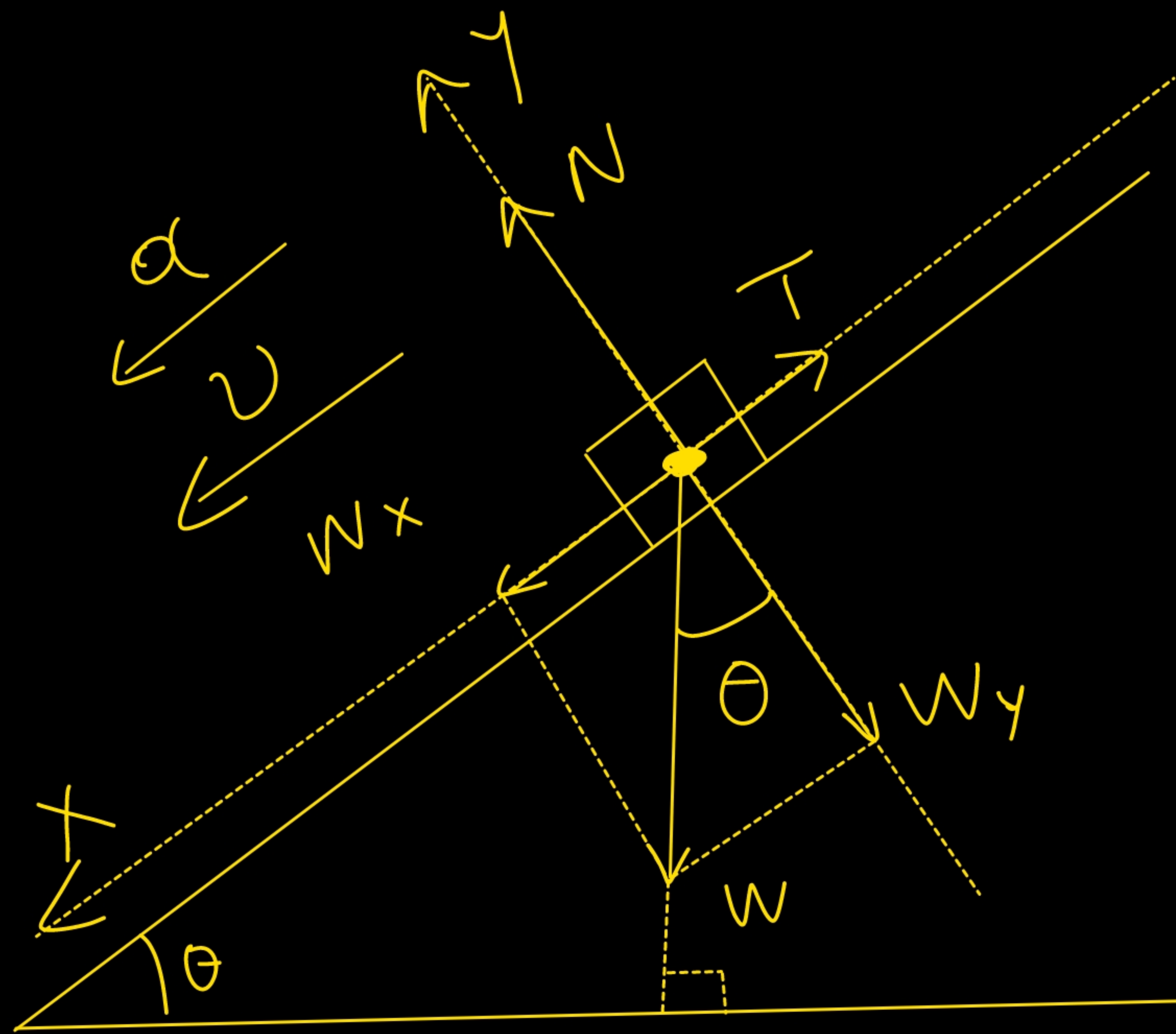
$$T = \mu N = \mu (mg + F \cdot \sin \theta)$$

$$F_x - T = m \cdot a \Rightarrow F \cdot \cos \theta - \mu (mg + F \cdot \sin \theta) = m \cdot a \Rightarrow$$

$$F \cdot \cos \theta - \mu mg - \mu F \cdot \sin \theta = m \cdot a \Rightarrow$$

$$F \cdot (\cos \theta - \mu \cdot \sin \theta) - \mu mg = m \cdot a \Rightarrow a = \dots$$

Αδυσ. 13 βελ. 158.)



$$\Gamma. S = \frac{1}{2} \cdot a \cdot t^2$$

$$\Sigma F_x = m \cdot a \Rightarrow W_x - T = m \cdot a \Rightarrow$$

$$m \cdot g \cdot \sin \theta - T = m \cdot a \Rightarrow 1 \cdot 10 \cdot \sin 30^\circ - 2,5 = 1 \cdot a \Rightarrow 10 \cdot \frac{1}{2} - 2,5 = 1 \cdot a \Rightarrow 5 - 2,5 = 1 \cdot a \Rightarrow$$

$$a = 2,5 \text{ m/s}^2$$

A. Το σώμα δέχεται τρεις δυνάμεις:

- 1) Το βάρος $W = m \cdot g$ από τη Γη.
- 2) Την κάθετη δύναμη N από το κεκλιμένο επίπεδο.
- 3) Την τριβή T από το κεκλιμένο επίπεδο.

$$B. \Sigma F_y = 0 \Rightarrow N - W_y = 0 \Rightarrow N - W \cdot \sin \theta = 0 \Rightarrow$$

$$N = m \cdot g \cdot \sin \theta \Rightarrow N = 1 \cdot 10 \cdot \sin 30^\circ \Rightarrow$$

$$N = 10 \cdot \frac{\sqrt{3}}{2} \Rightarrow N = 5 \cdot \sqrt{3} \text{ N}$$

$$T = \mu N = \frac{\sqrt{3}}{6} \cdot 5 \cdot \sqrt{3} = \frac{5 \cdot 3}{6} = \frac{15}{6} \Rightarrow T = 2,5 \text{ N}$$

