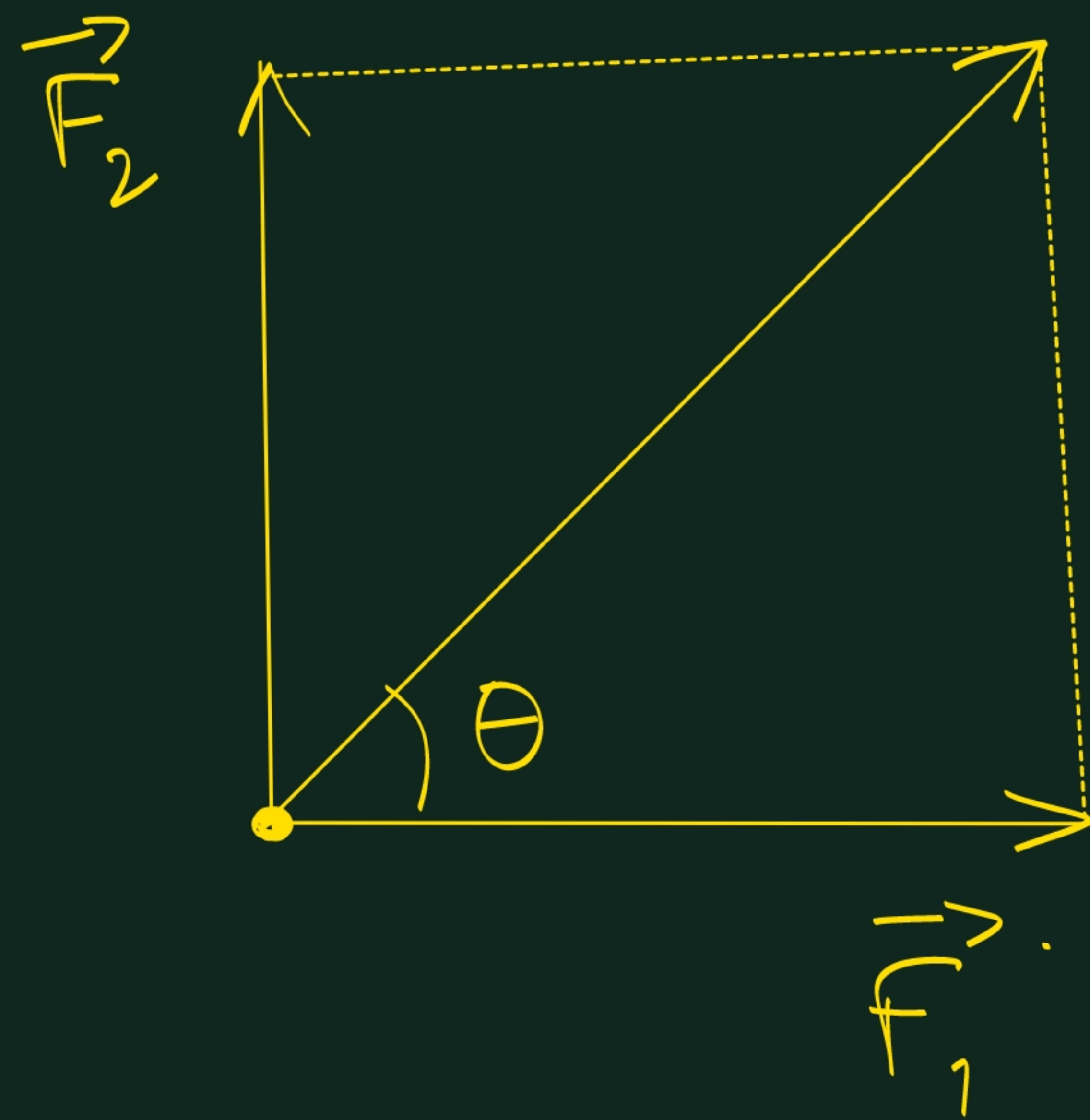


Αδ. 1 6ε2.157)



$$F_1 = F_2$$

$$F = 10 \text{ N}$$

$$F^2 = F_1^2 + F_2^2 \Rightarrow$$

$$10^2 = 2F_1^2 \Rightarrow$$

$$100 = 2F_1^2 \Rightarrow$$

$$F_1^2 = 50 \Rightarrow$$

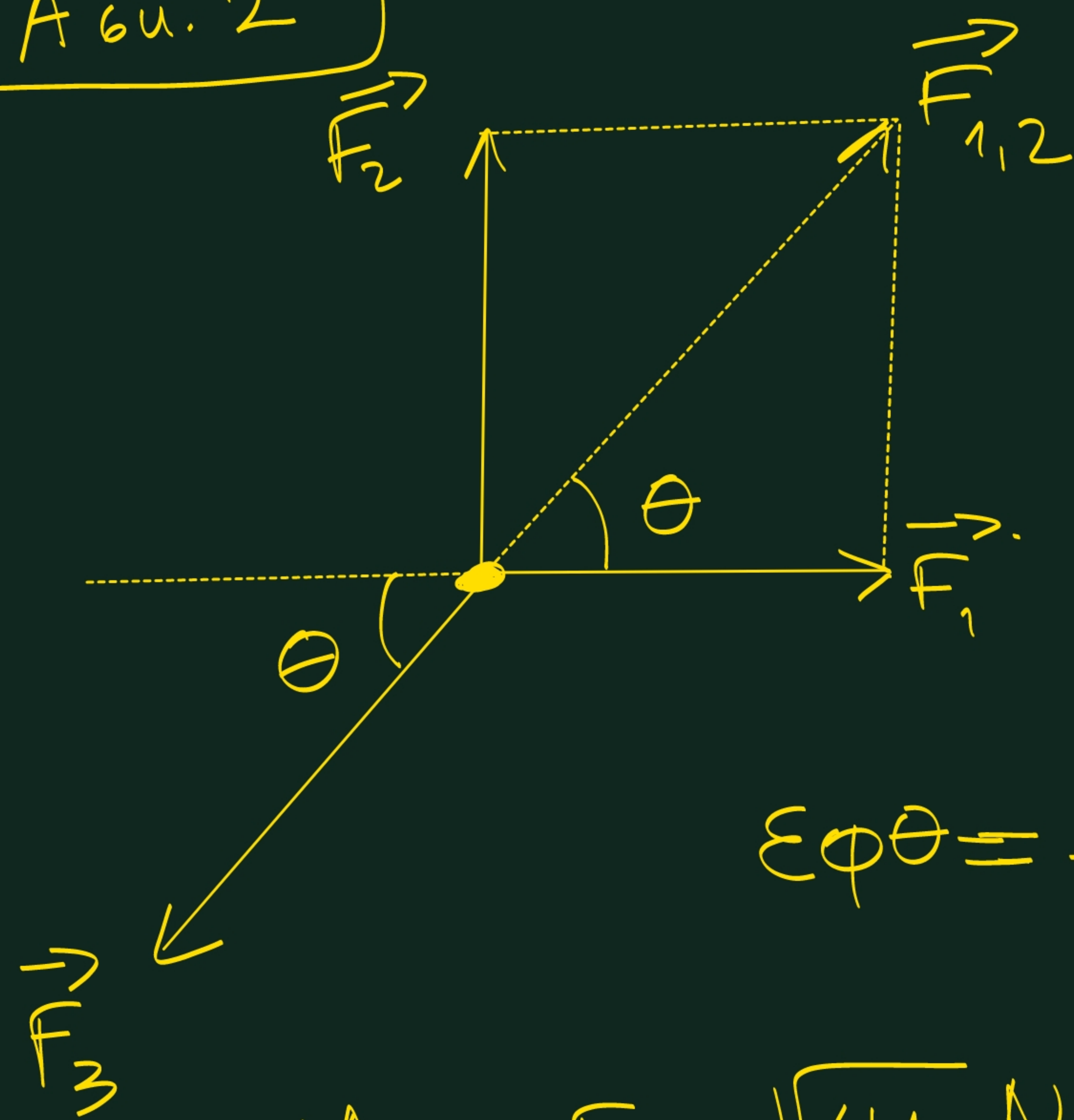
$$F_1 = \sqrt{50} \Rightarrow$$

$$F_1 = \sqrt{25 \cdot 2} \Rightarrow$$

$$F_1 = 5\sqrt{2} \text{ N}$$

$$\epsilon\phi\theta = \frac{F_2}{F_1} = 1 \Rightarrow \theta = 45^\circ$$

Αδ. 2)



$$F_{1,2}^2 = F_1^2 + F_2^2 \Rightarrow$$

$$F_{1,2}^2 = 4^2 + 5^2 \Rightarrow$$

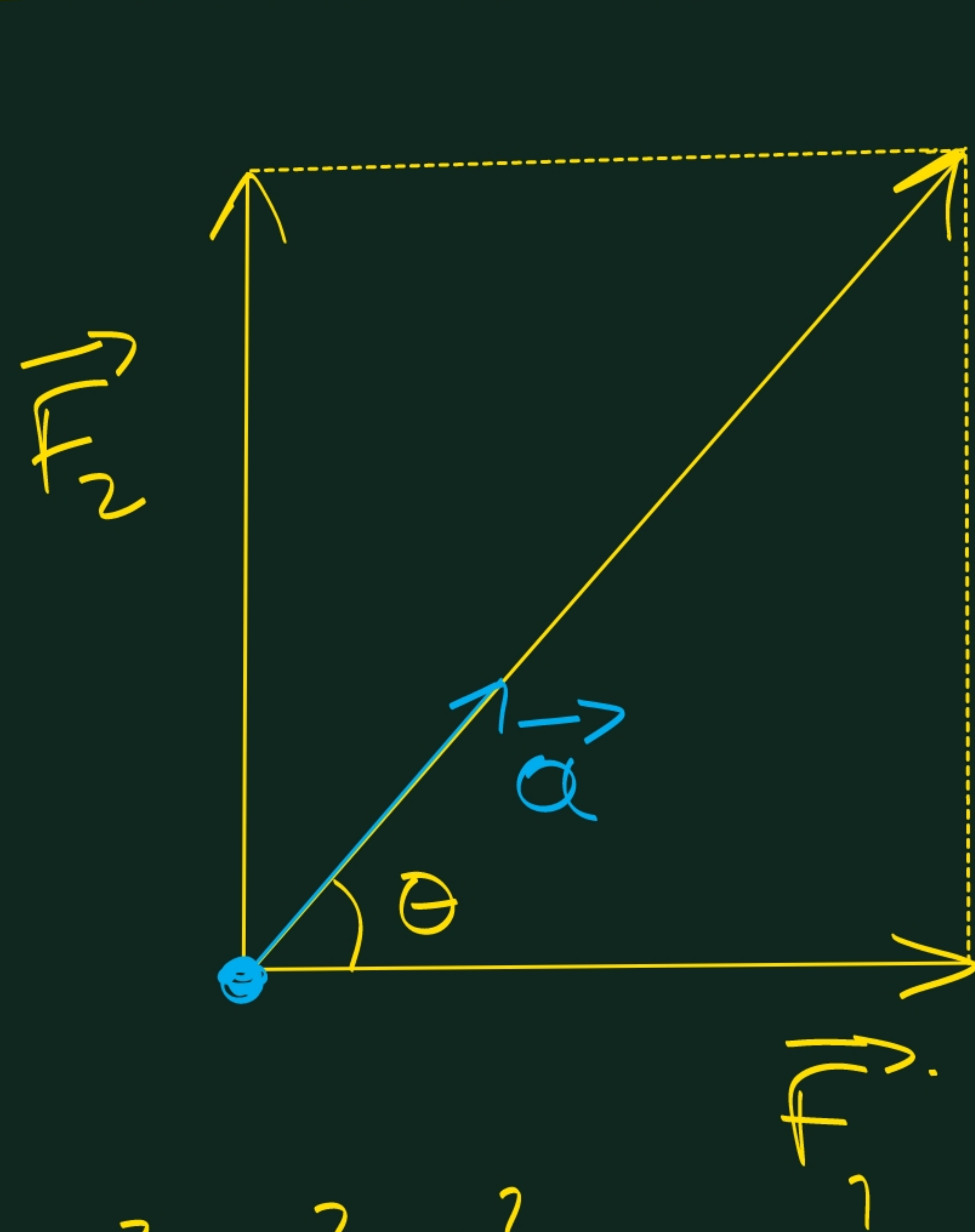
$$F_{1,2} = \sqrt{41} \text{ N}$$

$$\epsilon\phi\theta = \frac{F_2}{F_1} = \frac{5}{4}$$

$$\text{Άρα } F_3 = \sqrt{41} \text{ N (κατά μέτρο)}$$

γ. των κατεύθυνσεων που φαίνεται στο σχήμα.

Abu. 3 632. 157



$$\Sigma F = ma \Rightarrow$$

$$10 = 1 \cdot a \Rightarrow$$

$$a = 10 \text{ m/s}^2$$

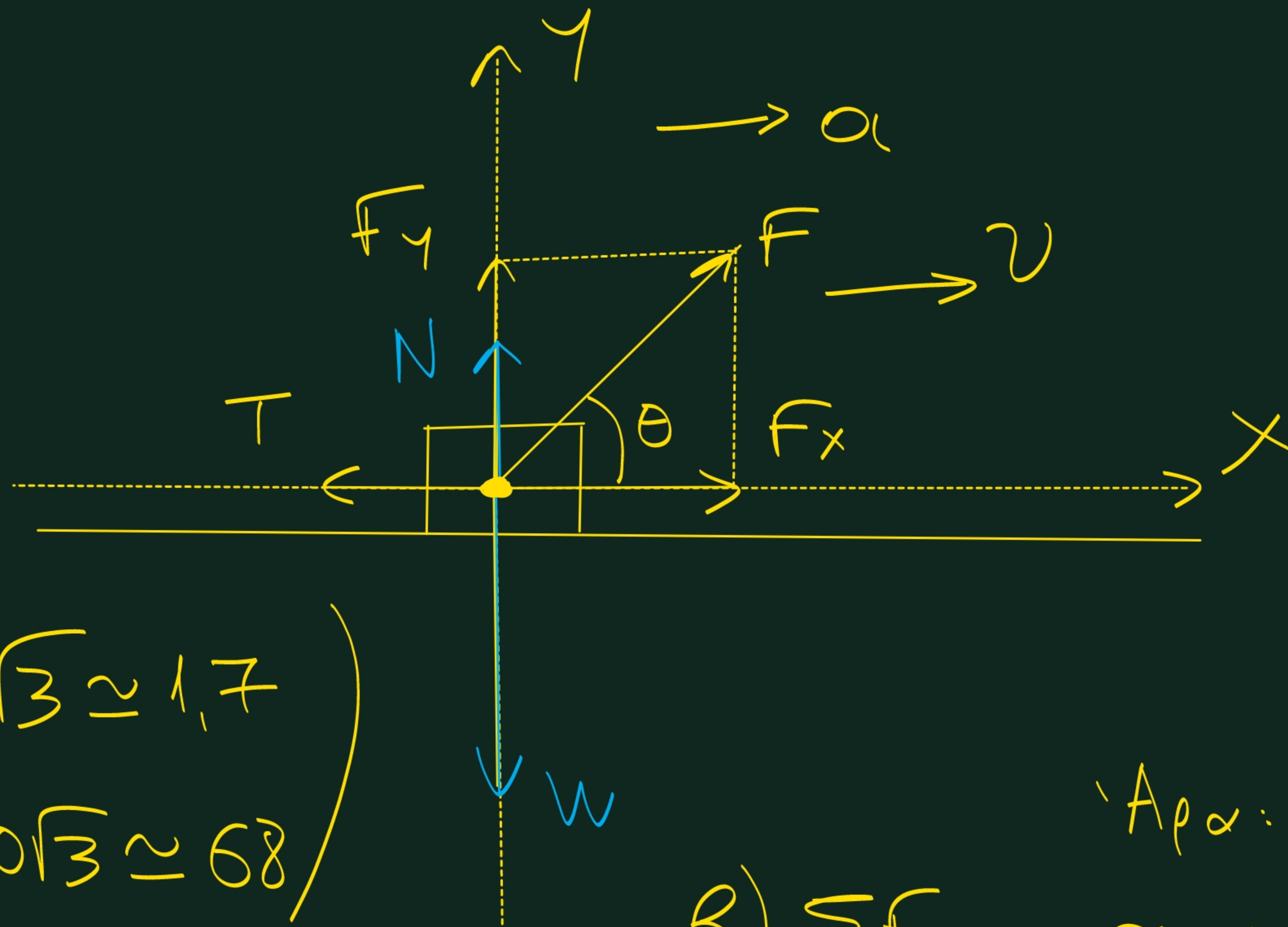
$$\tan \theta = \frac{F_2}{F_1} = \frac{8}{6} = \frac{4}{3}$$

$$\Sigma F^2 = F_1^2 + F_2^2 \Rightarrow$$

$$\Sigma F^2 = 6^2 + 8^2 \Rightarrow$$

$$\Sigma F^2 = 100 \Rightarrow \Sigma F = 10 \text{ N}$$

Παράδειγμα εε2. 128-129.)



$$\left(\begin{array}{l} \sqrt{3} \simeq 1,7 \\ 40\sqrt{3} \simeq 68 \end{array} \right)$$

$$a) T = \mu N$$

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

$$F \cdot \sin \theta + N - mg = 0 \Rightarrow$$

$$N = mg - F \cdot \sin \theta \Rightarrow$$

$$N = 10 \cdot 10 - 80 \cdot \sin 30^\circ \Rightarrow$$

$$N = 100 - 80 \cdot \frac{1}{2} \Rightarrow N = 60 \text{ Nt}$$

$$\text{Αρα: } T = \mu N \Rightarrow T = 0,25 \cdot 60 \Rightarrow T = 15 \text{ N}$$

$$b) \Sigma F_x = ma \Rightarrow F_x - T = ma \Rightarrow F \cdot \cos \theta - T = ma \Rightarrow$$

$$80 \cdot \cos 30^\circ - 15 = 10 a \Rightarrow 80 \cdot \frac{\sqrt{3}}{2} - 15 = 10 a \Rightarrow 68 - 15 = 10 a \Rightarrow$$

$$10 a = 53 \Rightarrow a = 5,3 \text{ m/s}^2$$

