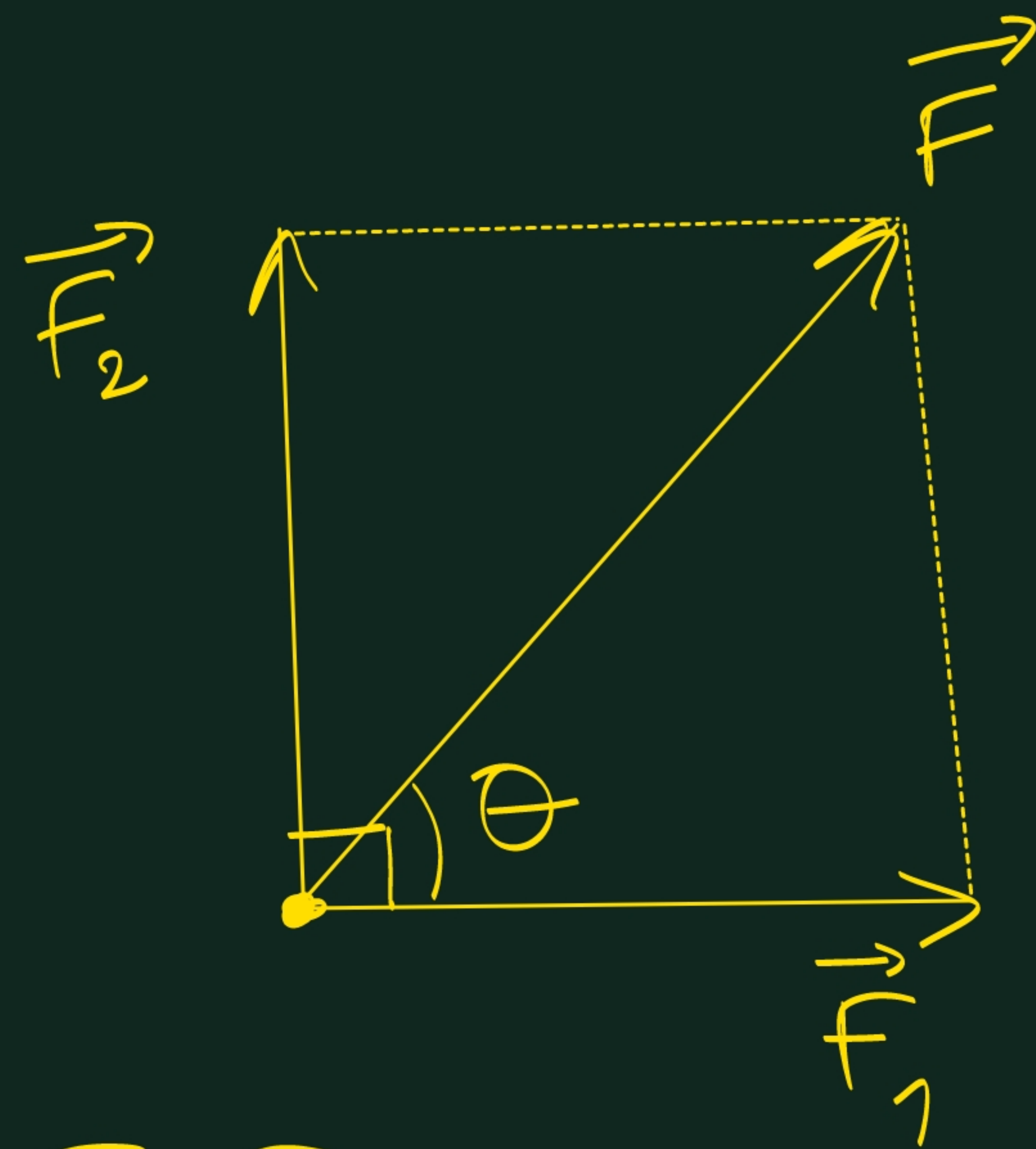


A6u.1 6ε2.157



Apα: $F_1 = F_2 = 5\sqrt{2} \text{ N}$

και $\Theta = 45^\circ$

$$\varepsilon\phi\Theta = \frac{F_2}{F_1} = 1 \Rightarrow$$

$$\Theta = 45^\circ$$

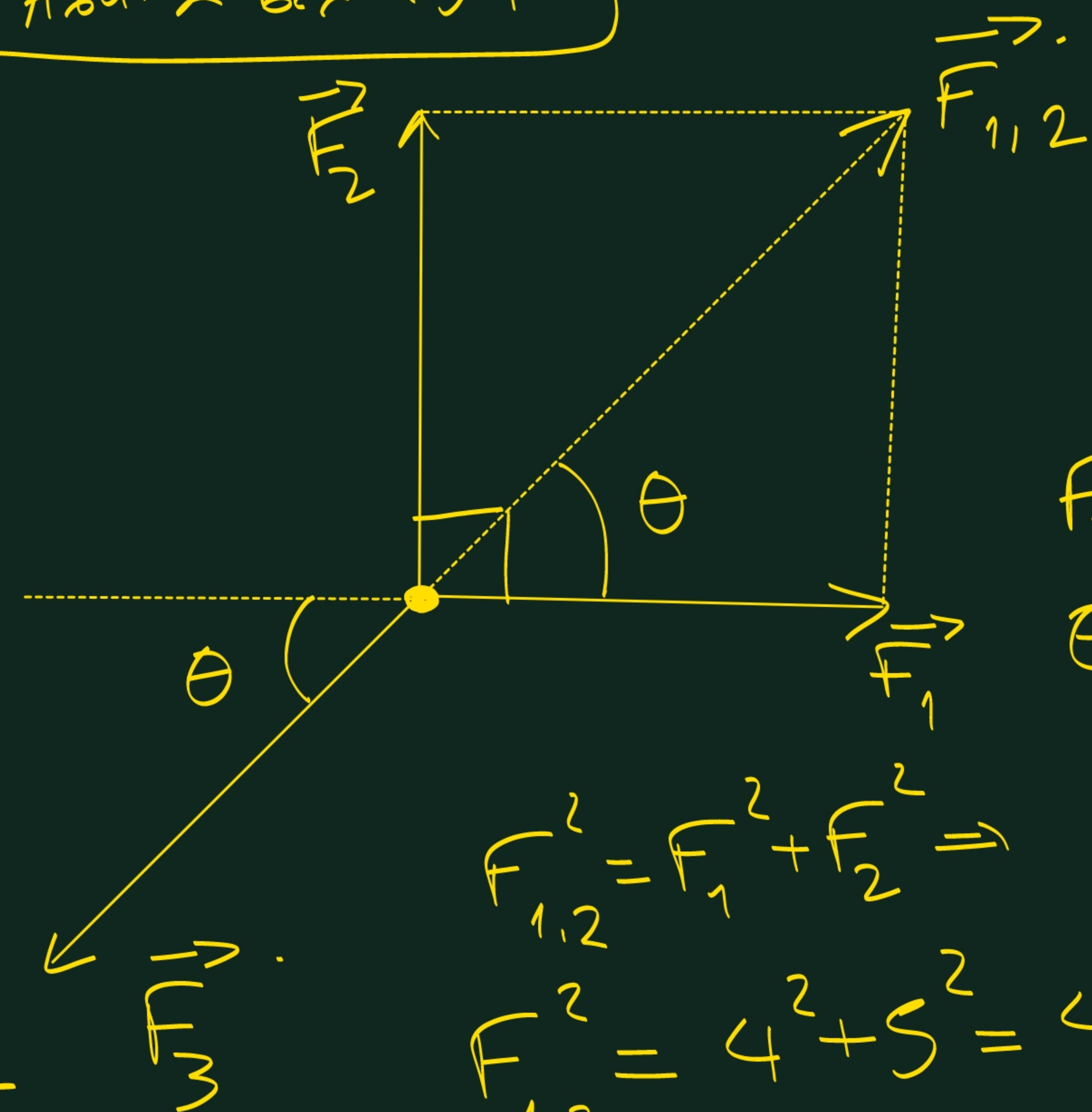
$$F_1 = F_2$$

$$F^2 = F_1^2 + F_2^2 \Rightarrow 10^2 = F_1^2 + F_1^2 \Rightarrow$$

$$100 = 2F_1^2 \Rightarrow 50 = F_1^2 \Rightarrow$$

$$F_1 = \sqrt{50} = \sqrt{25 \cdot 2} = 5\sqrt{2} \text{ N}$$

A6u.2 6ε2.157



$$F_1 = 4 \text{ N}$$

$$F_2 = 5 \text{ N}$$

$$F_3 = ;$$

$$\Theta = ;$$

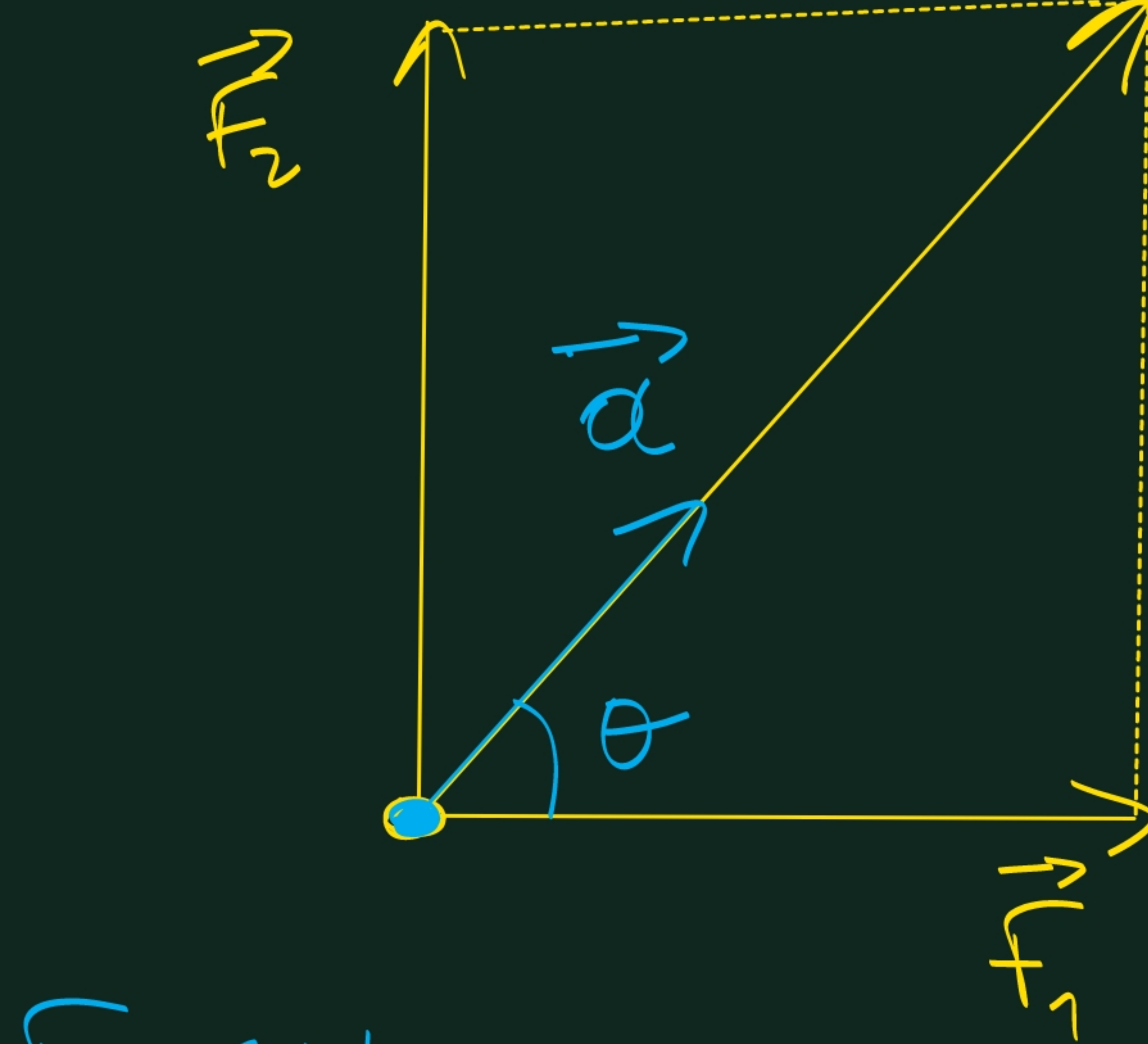
$$F_{1,2}^2 = F_1^2 + F_2^2 \Rightarrow$$

$$F_{1,2}^2 = 4^2 + 5^2 = 41 \Rightarrow$$

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

$$\varepsilon\phi\Theta = \frac{F_2}{F_1} = \frac{5}{4}$$

A 6u. 3 6ε2. 157



$$F_1 = 6 \text{ N}$$

$$F_2 = 8 \text{ N}$$

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

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

$$\Sigma F^2 = 100 \Rightarrow$$

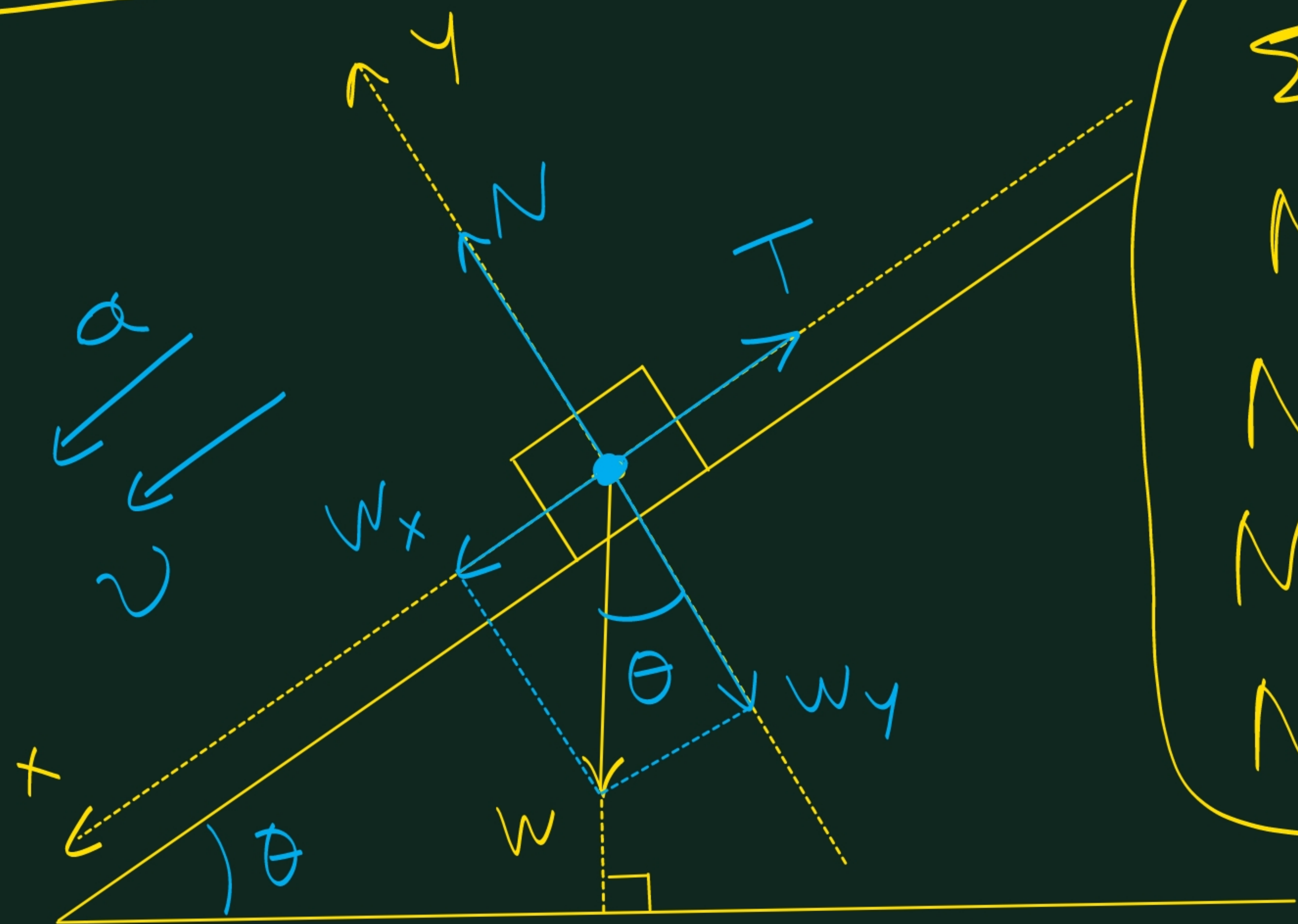
$$\Sigma F = 10 \text{ N}$$

$$\Sigma F = m a \Rightarrow 10 = 1 \cdot a \Rightarrow$$

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

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

Ασκ. 13 6ε2.158.



α) Στο σώμα ασκούνται τρεις δυνάμεις:

1) Το βάρος $W = mg$ από τη Γη.

2) Η κάθετη δύναμη N από το ευαλγμένο επιπέδο

3) Η τριβή ολίσθησης T " " "

$$b) T = \mu N$$

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

$$N = W_y \Rightarrow$$

$$N = W \cdot \sin \phi \Rightarrow$$

$$N = mg \cdot \sin \phi \Rightarrow$$

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

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

$$N = 5\sqrt{3} \text{ N}$$

$$\text{Αρα: } T = \mu N \Rightarrow$$

$$T = \frac{\sqrt{3}}{6} \cdot 5 \cdot \sqrt{3} \Rightarrow$$

$$T = \frac{5 \cdot \sqrt{3}^2}{6} = \frac{5 \cdot 3}{6} \Rightarrow$$

$$T = 2,5 \text{ N}$$

$$\delta) \Sigma F_x = W_x - T \Rightarrow ma = W_x - T \Rightarrow$$

$$ma = W \cdot \sin \phi - T \Rightarrow$$

$$ma = mg \cdot \sin \phi - T \Rightarrow$$

$$1 \cdot a = 1 \cdot 10 \cdot \sin 30^\circ - 2,5 \Rightarrow$$

$$a = 10 \cdot \frac{1}{2} - 2,5 \Rightarrow a = 2,5 \text{ m/s}^2$$

$$S = \frac{1}{2} at^2 = \frac{1}{2} \cdot 2,5 \cdot 1^2 = 1,25 \text{ m}$$