

4.8

Dane

$$m_6 = 0,06 \text{ kg}$$

$$v = 6 \text{ cm} = 0,06 \text{ m}$$

$$M_t = 0,03 \text{ N} \cdot \text{m}$$

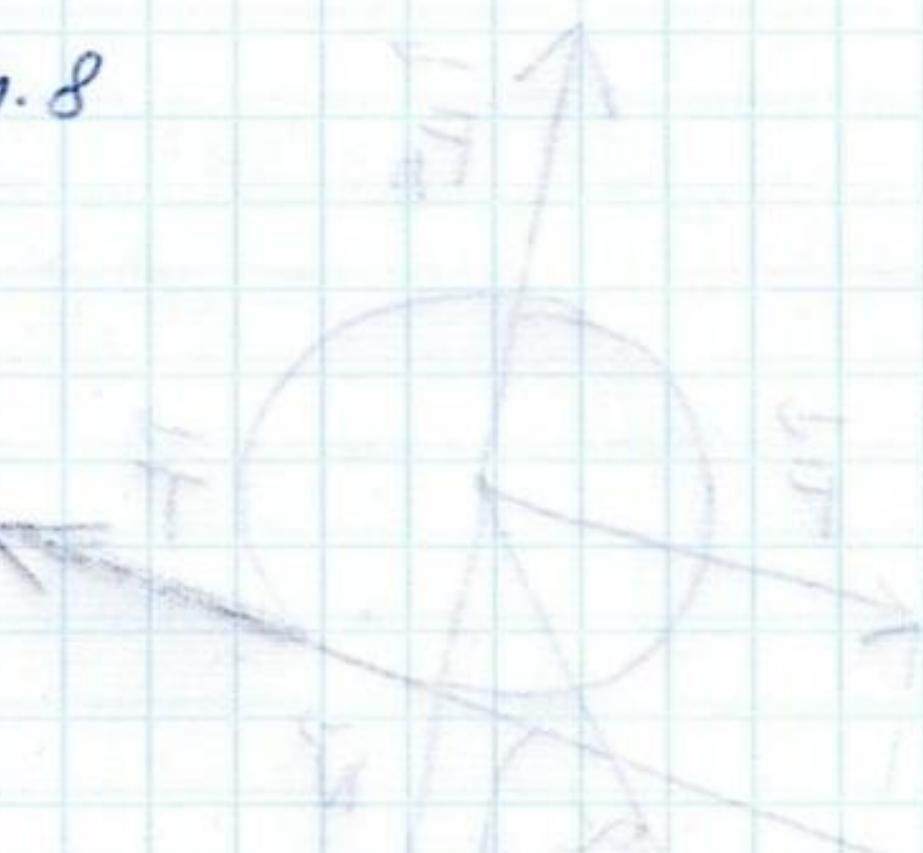
$$\epsilon = 8 \frac{\text{rad}}{\text{s}}$$

$N_2 > N_1$  ← z zadania 4.8

$$M_1 = N_1 \cdot v$$

$$M_2 = N_2 \cdot v$$

$$J = \frac{1}{2} m b r^2$$



$M_2 - M_1 - M_t = J \cdot \epsilon$  - zdragież zesadły dynamiki dla ruchu obrotowego

$$M_2 - M_1 - M_t = J \cdot \epsilon$$

$$N_2 \cdot v - N_1 \cdot v - M_t = \frac{1}{2} m b r^2 \cdot \epsilon = J \cdot \epsilon$$

$$N_2 \cdot v - N_1 \cdot v = \frac{1}{2} m b r^2 \cdot \epsilon + M_t$$

$$(N_2 - N_1) v = \frac{1}{2} m b r^2 \cdot \epsilon + M_t$$

$$\Delta F_N \cdot v = \frac{1}{2} m b r^2 \cdot \epsilon + M_t \quad / : v$$

$$\Delta F_N = \frac{\frac{1}{2} m b r^2 \cdot \epsilon + M_t}{v}$$

$$\Delta F_N = \frac{1}{2} m b r^2 \cdot \epsilon + \frac{M_t}{v}$$

PODSTAWIAMY:

$$\begin{aligned} \Delta F_N &= \frac{1}{2} \cdot 0,06 \text{ kg} \cdot 0,06 \text{ m} \cdot 8 \frac{\text{rad}}{\text{s}^2} + \frac{0,03 \text{ N} \cdot \text{m}}{0,06 \text{ m}} = \\ &= 0,0144 \text{ kg} \cdot \frac{\text{m}}{\text{s}^2} + 0,5 \text{ N} = 0,0144 \text{ N} + 0,5 \text{ N} = \\ &= 0,5144 \text{ N} \approx 5 \text{ N} \end{aligned}$$