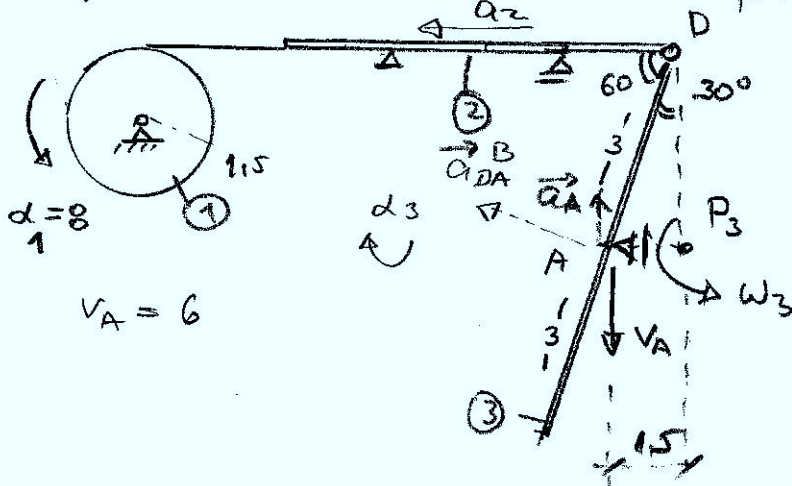


ВАР. 1
 Решение задачи II.

1. Кинематически решение - ускорения.



$$a_2 = \alpha_1 \cdot 1,5 = 8 \cdot 1,5 = 12 \frac{m}{s^2}$$

$$= a_D$$

$$\omega_3 = \frac{v_A}{P_3A} = \frac{6}{1,5} = 4 s^{-1}$$

$$\vec{a}_A = \vec{a}_D + \vec{a}_{DA}^B + \vec{a}_{DA}^A$$

$$a_D = 12 \frac{m}{s^2} (\leftarrow)$$

$$a_{DA}^B = \alpha_3 \cdot 3$$

$$a_{DA}^A = \omega_3^2 \cdot 3 = 48 \frac{m}{s^2}$$

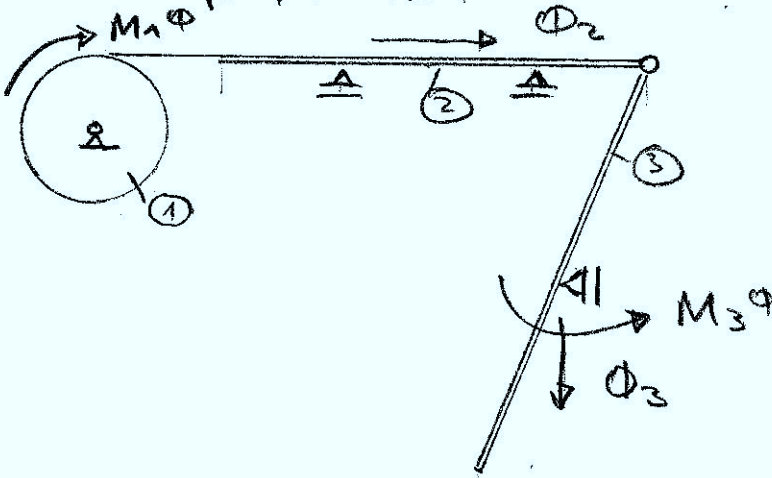
$$a_{Ax} = 0 = -12 - \alpha_3 \cdot 3 \cdot 0,866 + 48 \cdot 0,5$$

$$a_{Ay} = a_A = \alpha_3 \cdot 3 \cdot 0,5 + 48 \cdot 0,866$$

$$\alpha_3 = 4,619 s^{-1} (\curvearrowright)$$

$$a_A = 48,496 \frac{m}{s^2} (\uparrow)$$

2. Инерционные силы.



$$m_1 = 20 kg$$

$$m_2' = 6 kg/m \rightarrow$$

$$m_2 = 6 \cdot 8 = 48 kg$$

$$m_3 = 40 kg$$

$$M_1^{\phi} = J_1 \cdot \alpha_1 = \frac{1}{2} \cdot 20 \cdot 1,5^2 \cdot 8 = 180 N \cdot m (\curvearrowright)$$

$$\Phi_2 = m_2 a_2 = 48 \cdot 12 = 576 N (\rightarrow)$$

$$\Phi_3 = m_3 a_A = 40 \cdot 48,496 = 1940 N (\downarrow)$$

$$M_3^{\phi} = J_3 \alpha_3 = \frac{1}{12} \cdot 40 \cdot 6^2 \cdot 4,619 = 554,28 N \cdot m (\curvearrowright)$$