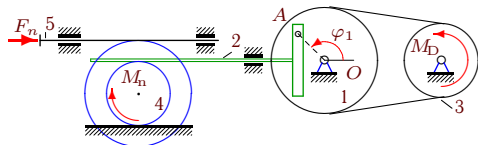


Получить уравнение движения кулисного механизма. Найти значение углового ускорения  $\ddot{\varphi}_1$  при  $t = 0$ .

**Вариант 1**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 10\text{Нм}, k = 13\text{Нмс},$$

$$\nu = 30\text{Нс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 9\text{кгм}^2, m_2 = 16\text{кг},$$

$$m_3 = 34\text{кг}, m_4 = 26\text{кг},$$

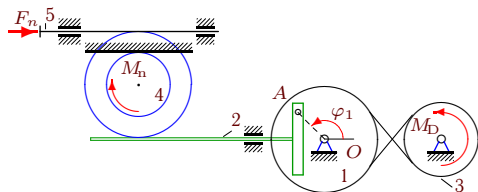
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 15\text{см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

**Вариант 2**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 12\text{Нм}, k = 12\text{Нмс},$$

$$\nu = 8\text{Нс/м}, \mu = 12\text{Нмс},$$

$$I_1 = 15\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

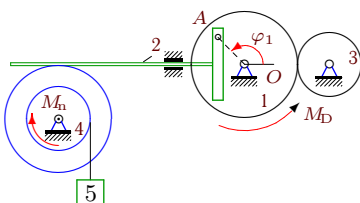
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 3**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 10\text{Нм}, k = 14\text{Нмс},$$

$$\mu = 15\text{Нмс}, I_1 = 7\text{кгм}^2,$$

$$m_2 = 14\text{кг}, m_3 = 32\text{кг},$$

$$m_4 = 24\text{кг}, m_5 = 5\text{кг},$$

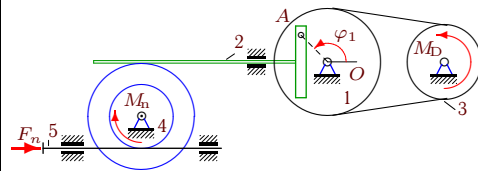
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

$$R_3 = 27\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 13\text{см},$$

$$\varphi_{1,0} = 1.1, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

**Вариант 4**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{n_x} = -\nu v_{5_x},$$

$$M_0 = 10 \text{ Нм}, k = 15 \text{ Нмс},$$

$$\nu = 8 \text{ кНс/м}, \mu = 12 \text{ Нмс},$$

$$I_1 = 9 \text{ кгм}^2, m_2 = 16 \text{ кг},$$

$$m_3 = 34 \text{ кг}, m_4 = 26 \text{ кг},$$

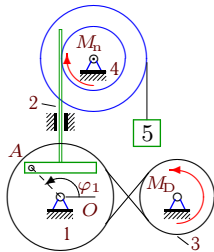
$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

$$R_3 = 28 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 15 \text{ см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.5 \frac{1}{\text{с}}.$$

**Вариант 5**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 12 \text{ Нм}, k = 15 \text{ Нмс},$$

$$\mu = 11 \text{ Нмс}, I_1 = 15 \text{ кгм}^2,$$

$$m_2 = 17 \text{ кг}, m_3 = 35 \text{ кг},$$

$$m_4 = 27 \text{ кг}, m_5 = 6 \text{ кг},$$

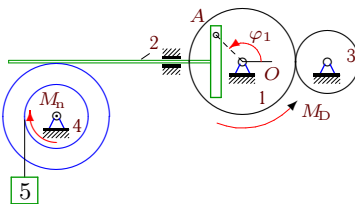
$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

$$R_3 = 28 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 16 \text{ см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.5 \frac{1}{\text{с}}.$$

**Вариант 6**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 14 \text{ Нм}, k = 12 \text{ Нмс},$$

$$\mu = 11 \text{ Нмс}, I_1 = 23 \text{ кгм}^2,$$

$$m_2 = 18 \text{ кг}, m_3 = 36 \text{ кг},$$

$$m_4 = 28 \text{ кг}, m_5 = 9 \text{ кг},$$

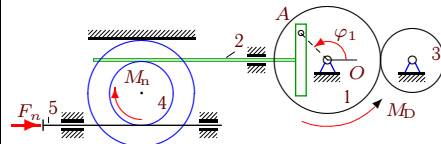
$$R_1 = 35 \text{ см}, r_1 = 24 \text{ см},$$

$$R_3 = 25 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 17 \text{ см},$$

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.2 \frac{1}{\text{с}}.$$

**Вариант 7**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{n_x} = -\nu v_{5_x},$$

$$M_0 = 11\text{Нм}, k = 14\text{Нмс},$$

$$\nu = 35\text{Нс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 11\text{кгм}^2, m_2 = 15\text{кг},$$

$$m_3 = 33\text{кг}, m_4 = 25\text{кг},$$

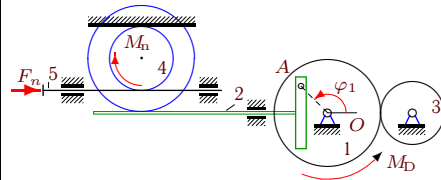
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

$$R_3 = 27\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

**Вариант 8**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{n_x} = -\nu v_{5_x},$$

$$M_0 = 11\text{Нм}, k = 13\text{Нмс},$$

$$\nu = 50\text{Нс/м}, \mu = 14\text{Нмс},$$

$$I_1 = 11\text{кгм}^2, m_2 = 15\text{кг},$$

$$m_3 = 33\text{кг}, m_4 = 25\text{кг},$$

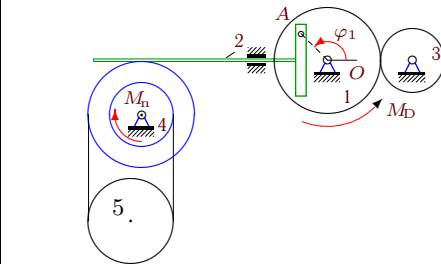
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

**Вариант 9**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 11\text{Нм}, k = 11\text{Нмс},$$

$$\mu = 14\text{Нмс}, I_1 = 11\text{кгм}^2,$$

$$m_2 = 15\text{кг}, m_3 = 33\text{кг},$$

$$m_4 = 25\text{кг}, m_5 = 60\text{кг},$$

$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

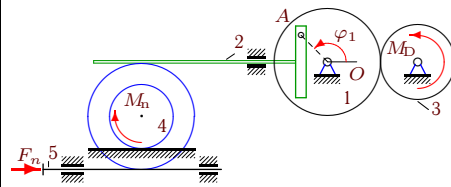
$$R_3 = 24\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$r_5 = 16\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

**Вариант 10**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 10\text{Нм}, k = 13\text{Нмс},$$

$$\nu = 8\text{кНс/м}, \mu = 11\text{Нмс},$$

$$I_1 = 7\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

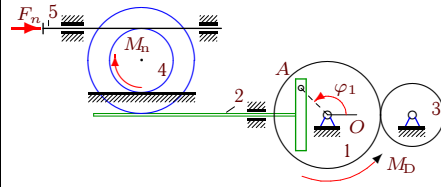
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

**Вариант 11**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 13\text{Нм}, k = 12\text{Нмс},$$

$$\nu = 40\text{Нс/м}, \mu = 11\text{Нмс},$$

$$I_1 = 19\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

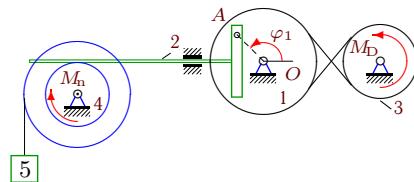
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 12**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 10\text{Нм}, k = 11\text{Нмс},$$

$$\mu = 13\text{Нмс}, I_1 = 9\text{кгм}^2,$$

$$m_2 = 15\text{кг}, m_3 = 33\text{кг},$$

$$m_4 = 25\text{кг}, m_5 = 4\text{кг},$$

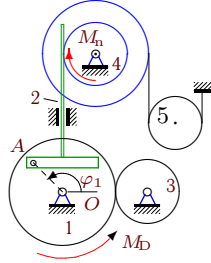
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

$$R_3 = 24\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

**Вариант 13**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 14\text{Нм}, k = 14\text{Нмс},$$

$$\mu = 10\text{Нмс}, I_1 = 23\text{кгм}^2,$$

$$m_2 = 18\text{кг}, m_3 = 36\text{кг},$$

$$m_4 = 28\text{кг}, m_5 = 8\text{кг},$$

$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

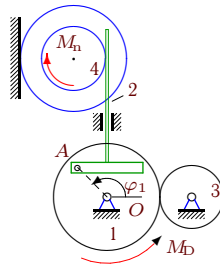
$$R_3 = 27\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 17\text{см},$$

$$r_5 = 13\text{см},$$

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

**Вариант 14**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 13\text{Нм}, k = 12\text{Нмс},$$

$$\mu = 11\text{Нмс},$$

$$I_1 = 19\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

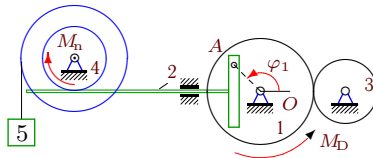
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 15**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 10\text{Нм}, k = 15\text{Нмс},$$

$$\mu = 14\text{Нмс}, I_1 = 7\text{кгм}^2,$$

$$m_2 = 14\text{кг}, m_3 = 32\text{кг},$$

$$m_4 = 24\text{кг}, m_5 = 4\text{кг},$$

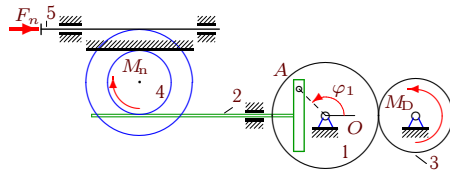
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

$$R_3 = 28\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 13\text{см},$$

$$\varphi_{1,0} = 1.1, \omega_{1z,0} = 0.5\frac{1}{\text{с}}.$$

**Вариант 16**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 8 \text{ Нм}, k = 11 \text{ Нмс},$$

$$\nu = 8 \text{ кНс/м}, \mu = 13 \text{ Нмс},$$

$$I_1 = 5 \text{ кгм}^2, m_2 = 15 \text{ кг},$$

$$m_3 = 33 \text{ кг}, m_4 = 25 \text{ кг},$$

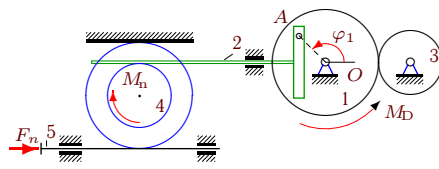
$$R_1 = 34 \text{ см}, r_1 = 23 \text{ см},$$

$$R_3 = 24 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 14 \text{ см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.1 \frac{1}{\text{с}}.$$

**Вариант 17**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 11 \text{ Нм}, k = 15 \text{ Нмс},$$

$$\nu = 25 \text{ Нс/м}, \mu = 13 \text{ Нмс},$$

$$I_1 = 11 \text{ кгм}^2, m_2 = 15 \text{ кг},$$

$$m_3 = 33 \text{ кг}, m_4 = 25 \text{ кг},$$

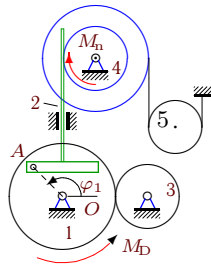
$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

$$R_3 = 28 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 14 \text{ см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.5 \frac{1}{\text{с}}.$$

**Вариант 18**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 10 \text{ Нм}, k = 15 \text{ Нмс},$$

$$\mu = 14 \text{ Нмс}, I_1 = 7 \text{ кгм}^2,$$

$$m_2 = 14 \text{ кг}, m_3 = 32 \text{ кг},$$

$$m_4 = 24 \text{ кг}, m_5 = 4 \text{ кг},$$

$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

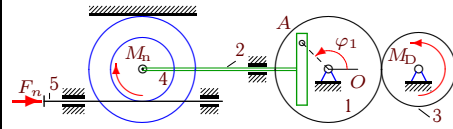
$$R_3 = 28 \text{ см}, R_4 = 20 \text{ см},$$

$$r_4 = 12 \text{ см}, i_4 = 13 \text{ см},$$

$$r_5 = 13 \text{ см},$$

$$\varphi_{1,0} = 1.1, \omega_{1z,0} = 0.5 \frac{1}{\text{с}}.$$

**Вариант 19**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 8\text{Нм}, k = 14\text{Нмс},$$

$$\nu = 35\text{Нс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 5\text{кгм}^2, m_2 = 15\text{кг},$$

$$m_3 = 33\text{кг}, m_4 = 25\text{кг},$$

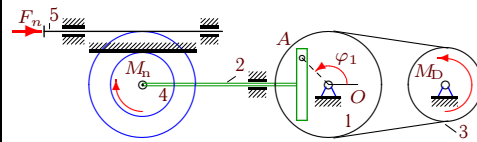
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

$$R_3 = 27\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

**Вариант 20**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 11\text{Нм}, k = 11\text{Нмс},$$

$$\nu = 8\text{кНс/м}, \mu = 12\text{Нмс},$$

$$I_1 = 11\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

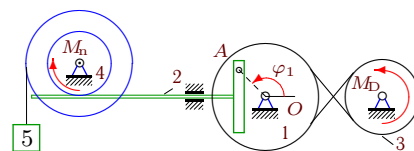
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

$$R_3 = 24\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

**Вариант 21**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 13\text{Нм}, k = 12\text{Нмс},$$

$$\mu = 10\text{Нмс}, I_1 = 18\text{кгм}^2,$$

$$m_2 = 18\text{кг}, m_3 = 36\text{кг},$$

$$m_4 = 28\text{кг}, m_5 = 7\text{кг},$$

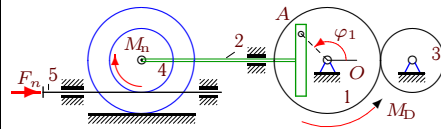
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 17\text{см},$$

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 22**



$$M_{Dz} = M_0 - k\omega_{1z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 11\text{Нм}, k = 14\text{Нмс},$$

$$\nu = 8\text{кНс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 11\text{кгм}^2, m_2 = 15\text{кг},$$

$$m_3 = 33\text{кг}, m_4 = 25\text{кг},$$

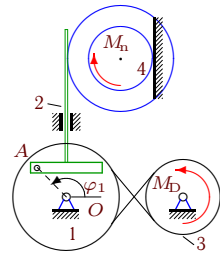
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

$$R_3 = 27\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 14\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

**Вариант 23**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 11\text{Нм}, k = 13\text{Нмс},$$

$$\mu = 13\text{Нмс},$$

$$I_1 = 12\text{кгм}^2, m_2 = 16\text{кг},$$

$$m_3 = 34\text{кг}, m_4 = 26\text{кг},$$

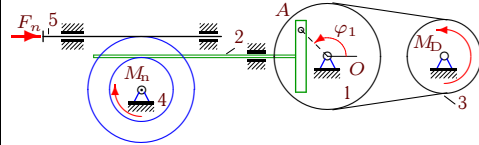
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 15\text{см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

**Вариант 24**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 11\text{Нм}, k = 15\text{Нмс},$$

$$\nu = 25\text{Нс/м}, \mu = 12\text{Нмс},$$

$$I_1 = 11\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

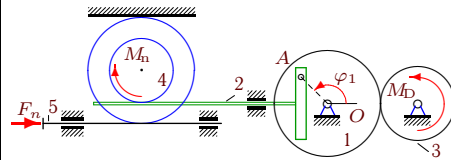
$$R_3 = 28\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.5\frac{1}{\text{с}}.$$



**Вариант 25**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 10\text{Нм}, k = 13\text{Нмс},$$

$$\nu = 15\text{Нс/м}, \mu = 12\text{Нмс},$$

$$I_1 = 7\text{кгм}^2, m_2 = 17\text{кг},$$

$$m_3 = 35\text{кг}, m_4 = 27\text{кг},$$

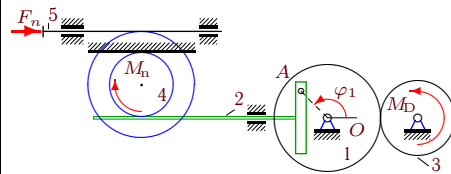
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 16\text{см},$$

$$\varphi_{1,0} = 1.4, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

**Вариант 26**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 9\text{Нм}, k = 11\text{Нмс},$$

$$\nu = 8\text{Нс/м}, \mu = 12\text{Нмс},$$

$$I_1 = 6\text{кгм}^2, m_2 = 16\text{кг},$$

$$m_3 = 34\text{кг}, m_4 = 26\text{кг},$$

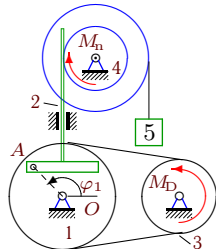
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

$$R_3 = 24\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 15\text{см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

**Вариант 27**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$M_0 = 10\text{Нм}, k = 12\text{Нмс},$$

$$\mu = 12\text{Нмс}, I_1 = 9\text{кгм}^2,$$

$$m_2 = 16\text{кг}, m_3 = 34\text{кг},$$

$$m_4 = 26\text{кг}, m_5 = 4\text{кг},$$

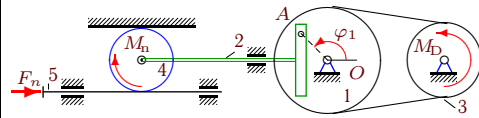
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 15\text{см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 28**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 9\text{Нм}, k = 12\text{Нмс},$$

$$\nu = 50\text{Нс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 7\text{кгм}^2, m_2 = 15\text{кг},$$

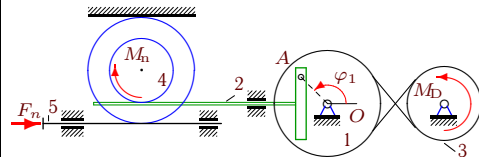
$$m_3 = 33\text{кг}, m_4 = 25\text{кг},$$

$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

$$R_3 = 25\text{см}, R_4 = 12\text{см},$$

$$\varphi_{1,0} = 1.2, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.$$

**Вариант 29**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 11\text{Нм}, k = 15\text{Нмс},$$

$$\nu = 20\text{Нс/м}, \mu = 13\text{Нмс},$$

$$I_1 = 12\text{кгм}^2, m_2 = 16\text{кг},$$

$$m_3 = 34\text{кг}, m_4 = 26\text{кг},$$

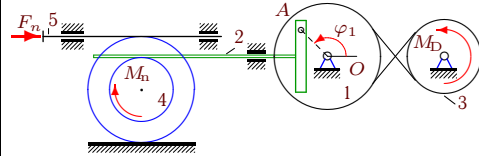
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

$$R_3 = 28\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 15\text{см},$$

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.5\frac{1}{\text{с}}.$$

**Вариант 30**



$$M_{Dz} = M_0 - k\omega_{3z},$$

$$M_{nz} = -\mu\omega_{4z},$$

$$F_{nx} = -\nu v_{5x},$$

$$M_0 = 13\text{Нм}, k = 15\text{Нмс},$$

$$\nu = 10\text{Нс/м}, \mu = 11\text{Нмс},$$

$$I_1 = 18\text{кгм}^2, m_2 = 18\text{кг},$$

$$m_3 = 36\text{кг}, m_4 = 28\text{кг},$$

$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

$$R_3 = 28\text{см}, R_4 = 20\text{см},$$

$$r_4 = 12\text{см}, i_4 = 17\text{см},$$

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.5\frac{1}{\text{с}}.$$

Ответы

$$T = (\dot{\varphi}^2/2)(A + B \sin^2 \varphi)$$

	<i>A</i>	<i>B</i>	<i>Q</i>	$\varepsilon$
1	11.203	2.041	1.512	0.112
2	17.144	1.587	-28.409	-1.521
3	9.190	1.754	-10.473	-1.000
4	11.455	1.907	-13.610	-1.038
5	17.527	5.042	-36.306	-2.042
6	25.205	2.389	21.130	0.766
7	13.259	16.752	-55.467	-2.027
8	13.138	1.456	4.415	0.303
9	12.907	2.584	33.527	2.212
10	9.268	1.722	-32.383	-2.962
11	21.144	10.699	-12.655	-0.404
12	10.907	3.181	-6.503	-0.476
13	25.464	5.579	6.261	0.248
14	21.144	1.976	-2.992	-0.140
15	9.310	3.884	-41.383	-3.370
16	6.907	1.574	-18.663	-2.256
17	13.383	18.066	-80.608	-2.825
18	9.310	3.378	-17.607	-1.726
19	7.259	3.532	-31.218	-3.041
20	13.023	4.867	-9.171	-0.517
21	20.205	5.394	-58.263	-2.279
22	13.259	3.532	-32.301	-1.990
23	14.203	1.586	-39.771	-2.775
24	13.527	2.606	-7.833	-0.495
25	9.268	2.144	-23.884	-2.107
26	7.965	1.728	-20.347	-2.127
27	11.083	3.422	0.632	0.059
28	9.021	3.024	-3.140	-0.273
29	14.455	2.323	-34.096	-2.062
30	20.599	2.686	-35.919	-1.546