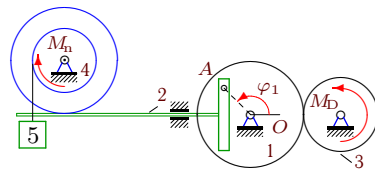


Получить уравнение движения кулисного механизма. Найти значение углового ускорения $\ddot{\varphi}_1$ при $t = 0$.

Вариант 1



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

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

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

$$\mu = 12\text{Нмс}, I_1 = 7\text{кгм}^2,$$

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

$$m_4 = 27\text{кг}, m_5 = 5\text{кг},$$

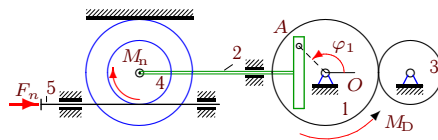
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

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

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

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

Вариант 2



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

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

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

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

$$\nu = 25\text{Нс/м}, \mu = 11\text{Нмс},$$

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

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

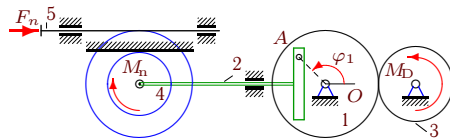
$$R_1 = 35\text{см}, r_1 = 24\text{см},$$

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

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

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

Вариант 3



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

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

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

$$M_0 = 9\text{Нм}, k = 15\text{Нмс},$$

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

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

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

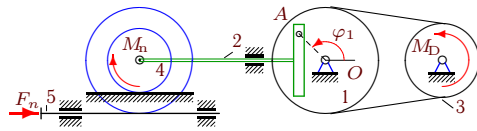
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

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

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

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

Вариант 4



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

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

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

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

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

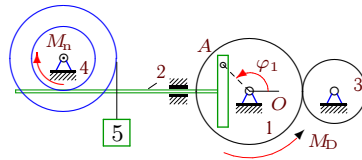
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

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

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

$$\varphi_{1,0} = 1.3, \omega_{1_z,0} = 0.4\frac{1}{\text{с}}.$$

Вариант 5



$$M_{D_z} = M_0 - k\omega_{1_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

$$\mu = 11\text{Нмс}, I_1 = 19\text{кгм}^2,$$

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

$$m_4 = 27\text{кг}, m_5 = 7\text{кг},$$

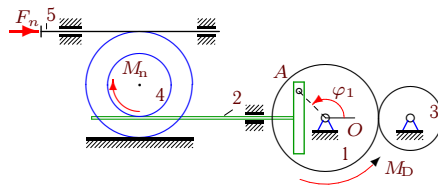
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

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

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

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

Вариант 6



$$M_{D_z} = M_0 - k\omega_{1_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

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

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

$$I_1 = 15\text{кгм}^2, m_2 = 16\text{кг},$$

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

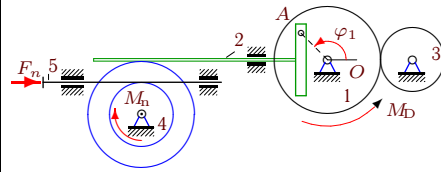
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

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

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

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

Вариант 7



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

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

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

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

$$\nu = 20\text{Нс/м}, \mu = 11\text{Нмс},$$

$$I_1 = 23\text{кгм}^2, m_2 = 18\text{кг},$$

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

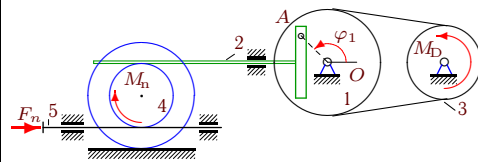
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

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

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

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

Вариант 8



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

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

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

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

$$\nu = 8\text{Нс/м}, \mu = 10\text{Нмс},$$

$$I_1 = 13\text{кгм}^2, m_2 = 18\text{кг},$$

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

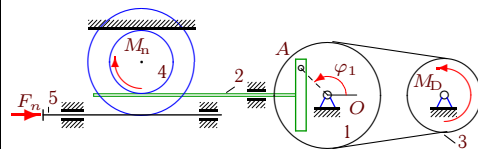
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

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

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

$$\varphi_{1,0} = 1.5, \omega_{1z,0} = 0.3\frac{1}{\text{с}}.$$

Вариант 9



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

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

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

$$M_0 = 8\text{Нм}, k = 15\text{Нмс},$$

$$\nu = 40\text{Нс/м}, \mu = 14\text{Нмс},$$

$$I_1 = 5\text{кгм}^2, m_2 = 14\text{кг},$$

$$m_3 = 32\text{кг}, m_4 = 24\text{кг},$$

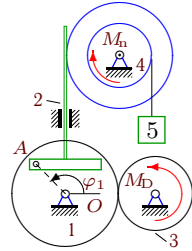
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

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

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

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

Вариант 10



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

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

$$M_0 = 9\text{Нм}, k = 15\text{Нмс},$$

$$\mu = 13\text{Нмс}, I_1 = 6\text{кгм}^2,$$

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

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

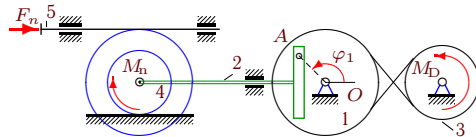
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

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

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

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

Вариант 11



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

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

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

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

$$\nu = 40\text{Нс/м}, \mu = 15\text{Нмс},$$

$$I_1 = 6\text{кгм}^2, m_2 = 14\text{кг},$$

$$m_3 = 32\text{кг}, m_4 = 24\text{кг},$$

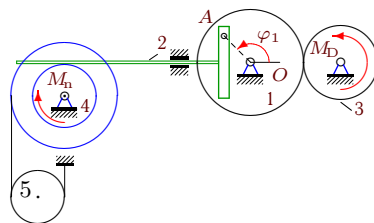
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

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

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

$$\varphi_{1,0} = 1.1, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.$$

Вариант 12



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

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

$$M_0 = 9\text{Нм}, k = 13\text{Нмс},$$

$$\mu = 12\text{Нмс}, I_1 = 6\text{кгм}^2,$$

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

$$m_4 = 26\text{кг}, m_5 = 3\text{кг},$$

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

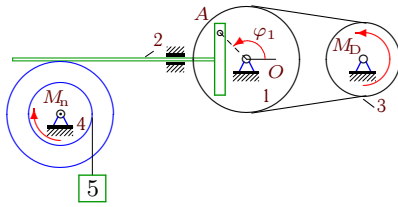
$$R_3 = 26\text{см}, R_4 = 20\text{см},$$

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

$$r_5 = 10\text{см},$$

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

Вариант 13



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

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

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

$$\mu = 11\text{Нмс}, I_1 = 13\text{кгм}^2,$$

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

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

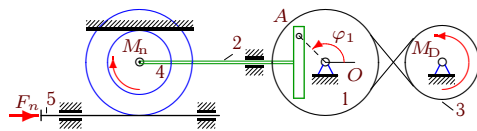
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

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

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

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

Вариант 14



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

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

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

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

$$\nu = 30\text{Нс/м}, \mu = 12\text{Нмс},$$

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

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

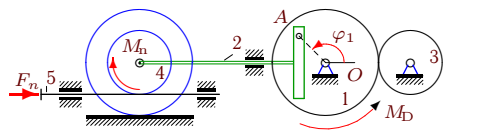
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

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

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

$$\varphi_{1,0} = 1.3, \omega_{1z,0} = 0.4\frac{1}{\text{с}}.$$

Вариант 15



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

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

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

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

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

$$I_1 = 15\text{кгм}^2, m_2 = 16\text{кг},$$

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

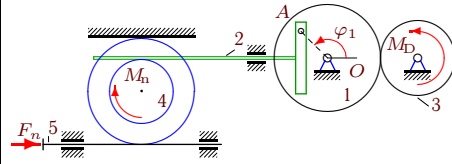
$$R_1 = 36\text{см}, r_1 = 25\text{см},$$

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

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

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

Вариант 16



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

$$M_0 = 7\text{Нм}, k = 11\text{Нмс},$$

$$\nu = 30\text{Нс/м}, \mu = 14\text{Нмс},$$

$$I_1 = 4\text{кгм}^2, m_2 = 14\text{кг},$$

$$m_3 = 32\text{кг}, m_4 = 24\text{кг},$$

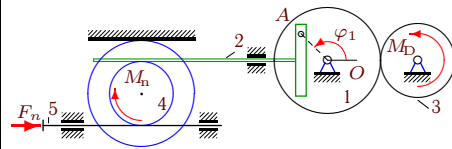
$$R_1 = 34\text{см}, r_1 = 23\text{см},$$

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

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

$$\varphi_{1,0} = 1.1, \omega_{1_z,0} = 0.1\frac{1}{\text{с}}.$$

Вариант 17



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

$$M_0 = 8\text{Нм}, k = 15\text{Нмс},$$

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

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

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

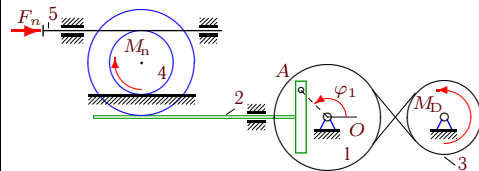
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

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

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

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

Вариант 18



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

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

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

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

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

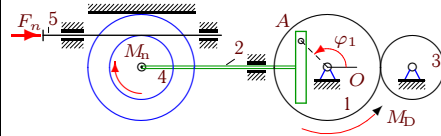
$$R_1 = 38\text{см}, r_1 = 27\text{см},$$

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

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

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

Вариант 19



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

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

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

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

$$\nu = 8 \text{ кНс/м}, \mu = 15 \text{ Нмс},$$

$$I_1 = 7 \text{ кгм}^2, m_2 = 14 \text{ кг},$$

$$m_3 = 32 \text{ кг}, m_4 = 24 \text{ кг},$$

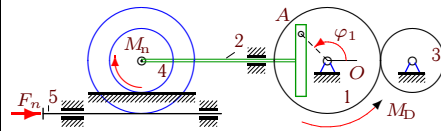
$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

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

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

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

Вариант 20



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

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

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

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

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

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

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

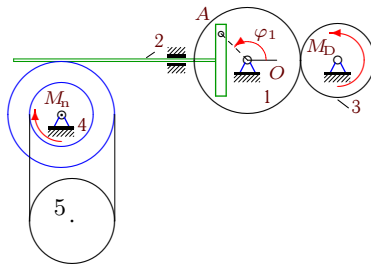
$$R_1 = 38 \text{ см}, r_1 = 27 \text{ см},$$

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

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

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

Вариант 21



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

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

$$M_0 = 11 \text{ Нм}, k = 12 \text{ Нмс},$$

$$\mu = 11 \text{ Нмс}, I_1 = 8 \text{ кгм}^2,$$

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

$$m_4 = 28 \text{ кг}, m_5 = 60 \text{ кг},$$

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

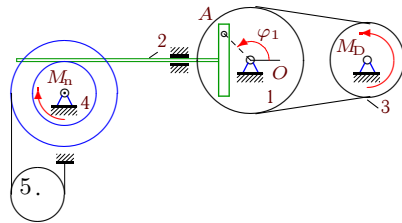
$$R_3 = 25 \text{ см}, R_4 = 20 \text{ см},$$

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

$$r_5 = 16 \text{ см},$$

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

Вариант 22



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

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

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

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

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

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

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

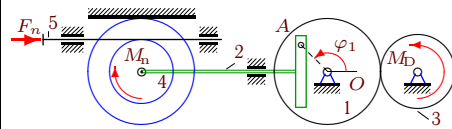
$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

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

$$r_5 = 11\text{см},$$

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

Вариант 23



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

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

$$F_{n1} = -\nu v_{5x},$$

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

$$\nu = 8\text{кНс/м}, \mu = 14\text{Нмс},$$

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

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

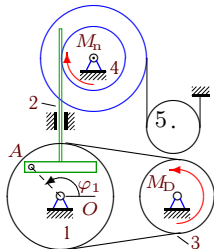
$$R_1 = 37\text{см}, r_1 = 26\text{см},$$

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

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

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

Вариант 24



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

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

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

$$\mu = 13\text{Нмс}, I_1 = 7\text{кгм}^2,$$

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

$$m_4 = 25\text{кг}, m_5 = 3\text{кг},$$

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

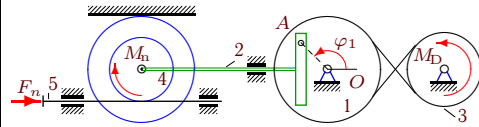
$$R_3 = 25\text{см}, R_4 = 20\text{см},$$

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

$$r_5 = 11\text{см},$$

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

Вариант 25



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

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

$$\nu = 20 \text{ Нс/м}, \mu = 10 \text{ Нмс},$$

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

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

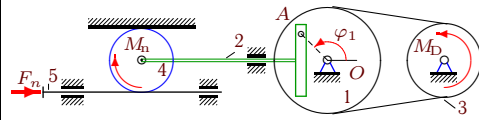
$$R_1 = 34 \text{ см}, r_1 = 23 \text{ см},$$

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

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

$$\varphi_{1,0} = 1.5, \omega_{1_z,0} = 0.1 \frac{1}{\text{с}}.$$

Вариант 26



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

$$M_0 = 8 \text{ Нм}, k = 15 \text{ Нмс},$$

$$\nu = 55 \text{ Нс/м}, \mu = 14 \text{ Нмс},$$

$$I_1 = 5 \text{ кгм}^2, m_2 = 14 \text{ кг},$$

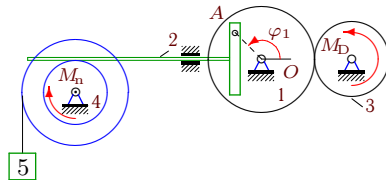
$$m_3 = 32 \text{ кг}, m_4 = 24 \text{ кг},$$

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

$$R_3 = 28 \text{ см}, R_4 = 12 \text{ см},$$

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

Вариант 27



$$M_{D_z} = M_0 - k\omega_{3_z},$$

$$M_{n_z} = -\mu\omega_{4_z},$$

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

$$\mu = 12 \text{ Нмс}, I_1 = 6 \text{ кгм}^2,$$

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

$$m_4 = 26 \text{ кг}, m_5 = 3 \text{ кг},$$

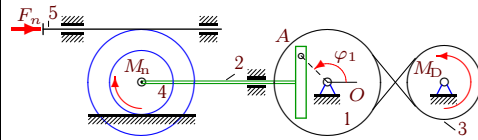
$$R_1 = 34 \text{ см}, r_1 = 23 \text{ см},$$

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

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

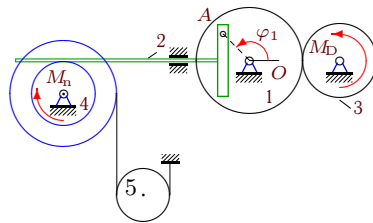
$$\varphi_{1,0} = 1.3, \omega_{1_z,0} = 0.1 \frac{1}{\text{с}}.$$

Вариант 28



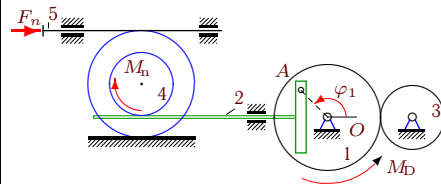
$$\begin{aligned}
 M_{Dz} &= M_0 - k\omega_{3z}, \\
 M_{nz} &= -\mu\omega_{4z}, \\
 F_{nx} &= -\nu v_{5x}, \\
 M_0 &= 11\text{Нм}, k = 12\text{Нмс}, \\
 \nu &= 30\text{Нс/м}, \mu = 13\text{Нмс}, \\
 I_1 &= 12\text{кгм}^2, m_2 = 16\text{кг}, \\
 m_3 &= 34\text{кг}, m_4 = 26\text{кг}, \\
 R_1 &= 35\text{см}, r_1 = 24\text{см}, \\
 R_3 &= 25\text{см}, R_4 = 20\text{см}, \\
 r_4 &= 12\text{см}, i_4 = 15\text{см}, \\
 \varphi_{1,0} &= 1.3, \omega_{1z,0} = 0.2\frac{1}{\text{с}}.
 \end{aligned}$$

Вариант 29



$$\begin{aligned}
 M_{Dz} &= M_0 - k\omega_{3z}, \\
 M_{nz} &= -\mu\omega_{4z}, \\
 M_0 &= 8\text{Нм}, k = 11\text{Нмс}, \\
 \mu &= 13\text{Нмс}, I_1 = 5\text{кгм}^2, \\
 m_2 &= 15\text{кг}, m_3 = 33\text{кг}, \\
 m_4 &= 25\text{кг}, m_5 = 2\text{кг}, \\
 R_1 &= 34\text{см}, r_1 = 23\text{см}, \\
 R_3 &= 24\text{см}, R_4 = 20\text{см}, \\
 r_4 &= 12\text{см}, i_4 = 14\text{см}, \\
 r_5 &= 10\text{см}, \\
 \varphi_{1,0} &= 1.2, \omega_{1z,0} = 0.1\frac{1}{\text{с}}.
 \end{aligned}$$

Вариант 30



$$\begin{aligned}
 M_{Dz} &= M_0 - k\omega_{1z}, \\
 M_{nz} &= -\mu\omega_{4z}, \\
 F_{nx} &= -\nu v_{5x}, \\
 M_0 &= 10\text{Нм}, k = 15\text{Нмс}, \\
 \nu &= 30\text{Нс/м}, \mu = 15\text{Нмс}, \\
 I_1 &= 7\text{кгм}^2, m_2 = 14\text{кг}, \\
 m_3 &= 32\text{кг}, m_4 = 24\text{кг}, \\
 R_1 &= 38\text{см}, r_1 = 27\text{см}, \\
 R_3 &= 28\text{см}, R_4 = 20\text{см}, \\
 r_4 &= 12\text{см}, i_4 = 13\text{см}, \\
 \varphi_{1,0} &= 1.1, \omega_{1z,0} = 0.5\frac{1}{\text{с}}.
 \end{aligned}$$

Ответы

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

	<i>A</i>	<i>B</i>	<i>Q</i>	ε
1	9.268	2.255	-34.036	-2.974
2	21.144	3.530	6.808	0.276
3	8.455	6.023	-176.906	-12.621
4	11.327	5.585	-106.996	-6.493
5	21.268	5.278	23.387	0.883
6	17.203	16.869	-35.965	-1.106
7	25.081	1.590	12.471	0.468
8	15.333	2.302	-2.012	-0.115
9	7.310	1.971	-12.052	-1.380
10	8.455	2.235	-37.929	-4.386
11	7.850	3.500	-20.529	-1.933
12	8.203	3.734	-28.538	-2.453
13	15.464	2.755	-12.156	-0.669
14	14.327	5.585	-51.867	-2.670
15	17.203	3.539	-19.405	-0.951
16	5.850	12.028	-24.466	-1.592
17	7.383	18.066	-106.720	-4.691
18	17.527	13.541	-103.681	-3.398
19	9.310	3.509	-45.413	-3.783
20	13.383	5.397	-137.669	-7.644
21	10.205	3.446	-51.438	-3.774
22	11.083	3.535	8.323	0.577
23	7.259	3.532	-59.767	-5.806
24	9.021	3.004	-4.134	-0.435
25	20.081	3.504	-22.210	-0.943
26	7.310	3.645	-37.472	-3.708
27	7.965	3.436	-8.180	-0.734
28	14.083	4.759	-32.042	-1.735
29	6.907	2.704	-21.195	-2.291
30	9.310	16.576	-87.065	-3.948