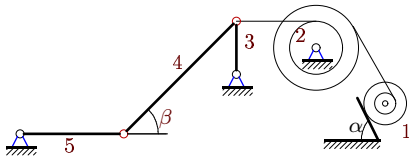


Кинетическая энергия системы. Приведенные массы

Механическая система, состоящая из пяти тел, движется под действием внешних сил. Заданы радиусы цилиндров, блоков и длины стержней. Радиусы инерции даны для блоков, цилиндры и стержни считать однородными. Массы даны в килограммах, радиусы — в сантиметрах. Стержни, направления которых в данный момент не указаны, считать вертикальными и горизонтальными. Вычислить приведенную массу системы μ в формуле $T = \mu v_1^2/2$, где v_1 — скорость груза 1 или центра цилиндра (блока) 1.

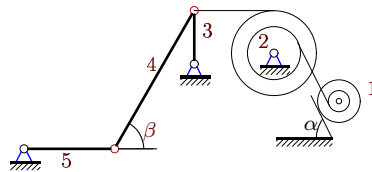
Кирсанов М.Н. Задачи по теоретической механике с решениями в Maple 11. — М.: ФИЗМАТЛИТ, 2010. — 264 с. (с.111)

Задача D-33.1. Белоненко Данила



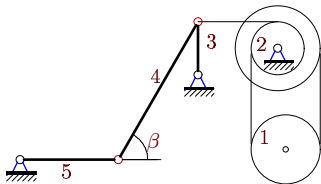
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = 20, m_2 = 4, m_3 = 15, m_4 = 27, m_5 = 9, \beta = 45^\circ.$$

Задача D-33.2. Богданович Михаил



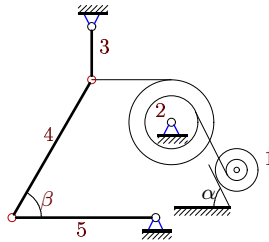
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 48, m_3 = 3, m_4 = 9, m_5 = 27, \beta = 60^\circ.$$

Задача D-33.3. Бокарева Анастасия



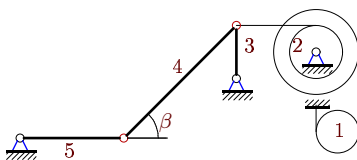
$$R_1 = 4.5, R_2 = 5, r_2 = 4, i_2 = 2, m_1 = m_2 = 2, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 60^\circ.$$

Задача D-33.4. Воронова Екатерина



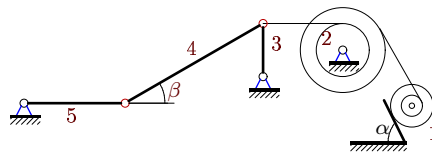
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 2, m_1 = 16, m_2 = 80, m_3 = 12, m_4 = 27, m_5 = 9, \beta = 60^\circ.$$

Задача D-33.5. Григорьев Михаил



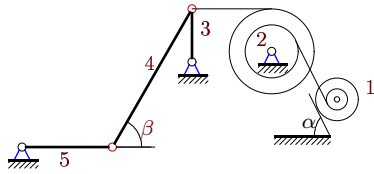
$$R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 12, m_3 = 6, m_4 = 9, m_5 = 27, \beta = 45^\circ.$$

Задача D-33.6. Журавлев Илья



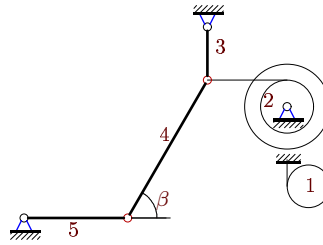
$$R_1 = 2, r_1 = 1, i_1 = 2, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 20, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 30^\circ.$$

Задача D-33.7. Камаева Элина



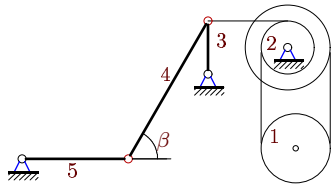
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 64, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 60^\circ.$$

Задача D-33.8. Козлов Анатолий



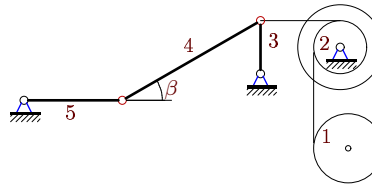
$$R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 2, m_2 = 12, m_3 = 3, m_4 = 27, m_5 = 27, \beta = 60^\circ.$$

Задача D-33.9. Корляков Андрей



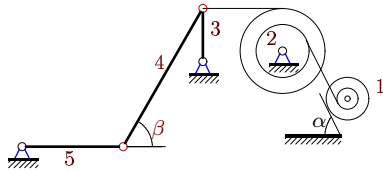
$$R_1 = 4.5, R_2 = 5, r_2 = 4, i_2 = 3, m_1 = 2, m_2 = 3, m_3 = 3, m_4 = 18, m_5 = 18, \beta = 60^\circ.$$

Задача D-33.10. Манаенков Кирилл



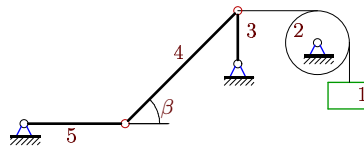
$$R_1 = 2.5, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = m_2 = 2, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 30^\circ.$$

Задача D-33.11. Мацко Ксения



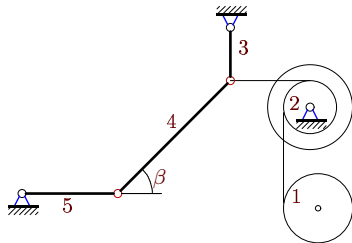
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 48, m_3 = 3, m_4 = 9, m_5 = 27, \beta = 60^\circ.$$

Задача D-33.12. Моисеева Анастасия



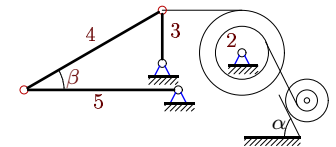
$$m_1 = 19, m_2 = 2, m_3 = 12, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

Задача D-33.13. Новиков Алексей



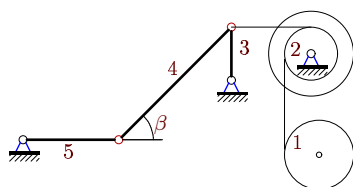
$$R_1 = 3.5, R_2 = 4, r_2 = 3, i_2 = 3, m_1 = m_2 = 2, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 45^\circ.$$

Задача D-33.14. Овчинников Егор



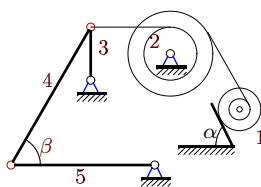
$$R_1 = 2, r_1 = 1, i_1 = 2, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 16, m_2 = 48, m_3 = 12, m_4 = 27, m_5 = 27, \beta = 30^\circ.$$

Задача D-33.15. Оралбеков Кирилл



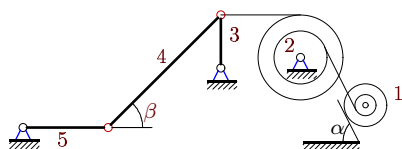
$$R_1 = 3.5, R_2 = 4, r_2 = 3, i_2 = 3, m_1 = 4, m_2 = 2, m_3 = 12, m_4 = 9, m_5 = 18, \beta = 45^\circ.$$

Задача D-33.16. Палагицкий Сергей



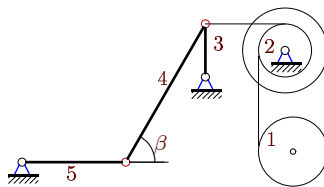
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 20, m_2 = 24, m_3 = 15, m_4 = 9, m_5 = 9, \beta = 60^\circ.$$

Задача D-33.17. Пушкина Мария



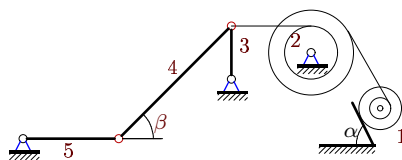
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 12, m_2 = 96, m_3 = 9, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

Задача D-33.18. Раздобарин Борис



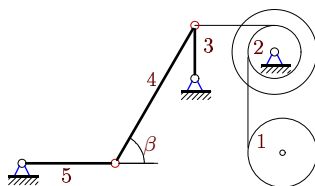
$$R_1 = 4.5, R_2 = 5, r_2 = 4, i_2 = 2, m_1 = 2, m_2 = 3, m_3 = 3, m_4 = 9, m_5 = 18, \beta = 60^\circ.$$

Задача D-33.19. Серый Александр



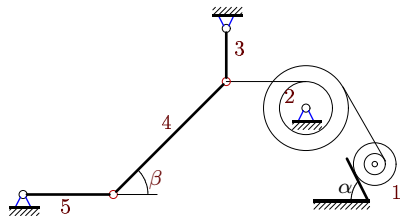
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = 4, m_2 = 8, m_3 = 3, m_4 = 27, m_5 = 18, \beta = 45^\circ.$$

Задача D-33.20. Соловьев Роман



$$R_1 = 4.5, R_2 = 5, r_2 = 4, i_2 = 3, m_1 = 2, m_2 = 1, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 60^\circ.$$

Задача D-33.21. Шиллина Елизавета



$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = m_2 = 4, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 45^\circ.$$