

## Кинетическая энергия системы. Приведенные массы

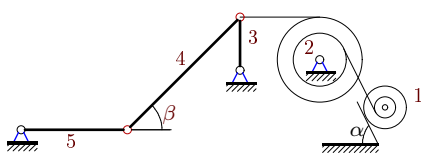
Механическая система, состоящая из пяти тел, движется под действием внешних сил. Заданы радиусы цилиндров, блоков и длины стержней. Радиусы инерции даны для блоков, цилиндры и стержни считать однородными. Массы даны в килограммах, радиусы — в сантиметрах. Стержни, направления которых в данный момент не указаны, считать вертикальными и горизонтальными. Вычислить приведенную массу системы  $\mu$  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.

Антипенкова

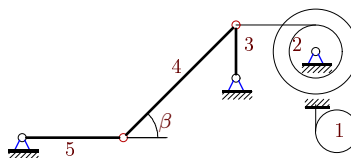
Анастасия



$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 80, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

### Задача D-33.2.

Бабайцева Ксения

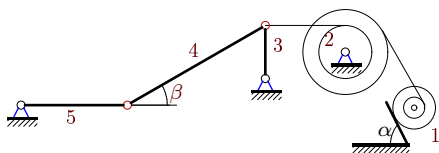


$$R_2 = 4, r_2 = 2, i_2 = 2, m_1 = 2, m_2 = 16, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

### Задача D-33.3.

Булатова

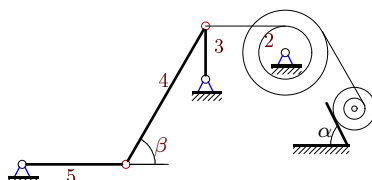
Елизавета



$$R_1 = 2, r_1 = 1, i_1 = 2, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 16, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 30^\circ.$$

### Задача D-33.4.

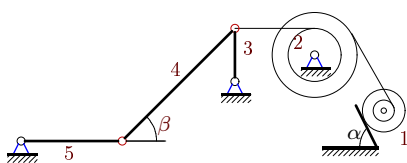
Висков Андрей



$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 24, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 60^\circ.$$

### Задача D-33.5.

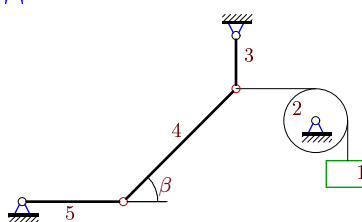
Габриелян Георгий



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

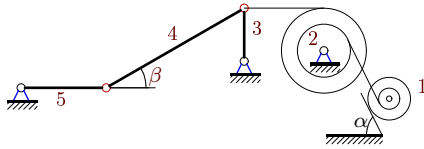
### Задача D-33.6.

Галина Анастасия



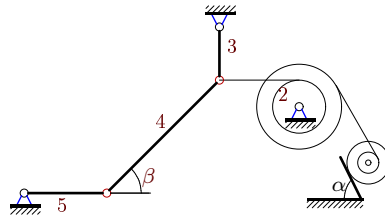
$$m_1 = 18, m_2 = 8, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 45^\circ.$$

**Задача D-33.7.** Журавлева Каролина



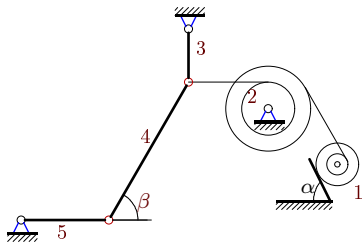
$$R_1 = 2, r_1 = 1, i_1 = 2, R_2 = 4, r_2 = 2, i_2 = 2, m_1 = 4, m_2 = 32, m_3 = 3, m_4 = 18, m_5 = 18, \beta = 30^\circ.$$

**Задача D-33.8.** Калашникова Дарья



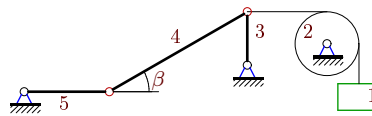
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = m_2 = 4, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 45^\circ.$$

**Задача D-33.9.** Каткова Ольга



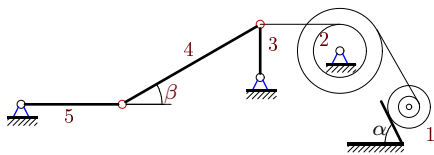
$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = 12, m_2 = 16, m_3 = 9, m_4 = 27, m_5 = 9, \beta = 60^\circ.$$

**Задача D-33.10.** Ковальчук Наталья



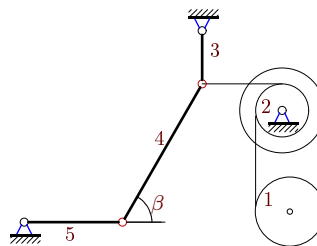
$$m_1 = 13, m_2 = 8, m_3 = 9, m_4 = 9, m_5 = 9, \beta = 30^\circ.$$

**Задача D-33.11.** Козлова Анна



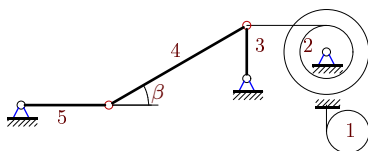
$$R_1 = 2, r_1 = 1, i_1 = 2, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 8, m_2 = 12, m_3 = 6, m_4 = 18, m_5 = 27, \beta = 30^\circ.$$

**Задача D-33.12.** Кокарева Екатерина



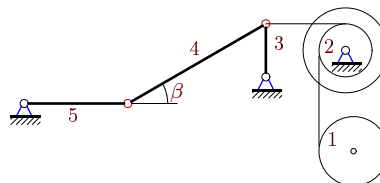
$$R_1 = 4.5, R_2 = 5, r_2 = 4, i_2 = 3, m_1 = m_2 = 2, m_3 = 3, m_4 = 27, m_5 = 18, \beta = 60^\circ.$$

**Задача D-33.13.** Конго Анна



$$R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 2, m_2 = 12, m_3 = 3, m_4 = 9, m_5 = 27, \beta = 30^\circ.$$

**Задача D-33.14.** Кугук Юрий

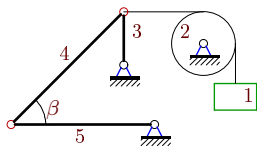


$$R_1 = 2.5, R_2 = 3, r_2 = 2, i_2 = 3, m_1 = 2, m_2 = 3, m_3 = 3, m_4 = 27, m_5 = 18, \beta = 30^\circ.$$

**Задача D-33.15.**

Надежда

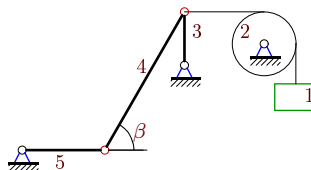
Куковякина



$$m_1 = 18, m_2 = 10, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

**Задача D-33.16.**

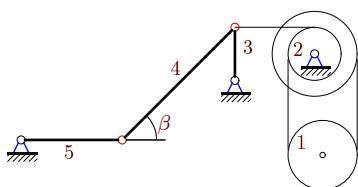
Панков Алексей



$$m_1 = 6, m_2 = 2, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 60^\circ.$$

**Задача D-33.17.**

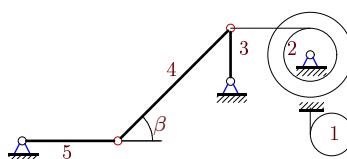
Рогачёв Дмитрий



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

**Задача D-33.18.**

Садекова Альбина

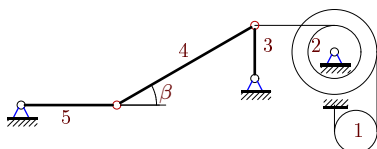


$$R_2 = 4, r_2 = 2, i_2 = 2, m_1 = 2, m_2 = 16, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 45^\circ.$$

**Задача D-33.19.**

Григорий

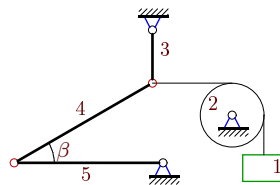
Сиротенко



$$R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 2, m_2 = 12, m_3 = 3, m_4 = 9, m_5 = 27, \beta = 30^\circ.$$

**Задача D-33.20.**

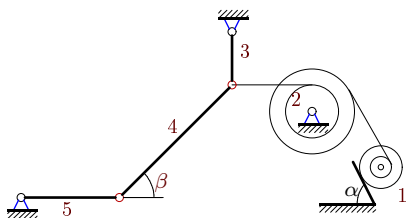
Титова Кира



$$m_1 = 12, m_2 = 10, m_3 = 3, m_4 = 9, m_5 = 9, \beta = 30^\circ.$$

**Задача D-33.21.**

Тоболева Василина

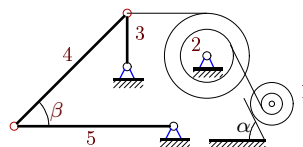


$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 3, r_2 = 2, i_2 = 2, m_1 = 4, m_2 = 24, m_3 = 3, m_4 = 18, m_5 = 9, \beta = 45^\circ.$$

**Задача D-33.22.**

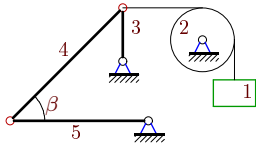
Татъяна

Хренникова



$$R_1 = 2, r_1 = 1, i_1 = 1, R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 4, m_2 = 32, m_3 = 3, m_4 = 27, m_5 = 18, \beta = 45^\circ.$$

**Задача D-33.23.** Чиченёва Ксения

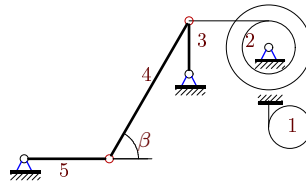


$m_1 = 12, m_2 = 10, m_3 = 3, m_4 = 9,$   
 $m_5 = 9, \beta = 45^\circ.$

**Задача D-33.24.**

Эверскова

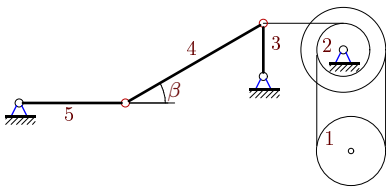
Анастасия



$R_2 = 4, r_2 = 2, i_2 = 3, m_1 = 2, m_2 = 8,$   
 $m_3 = 3, m_4 = 9, m_5 = 18, \beta = 60^\circ.$

**Задача D-33.25.**

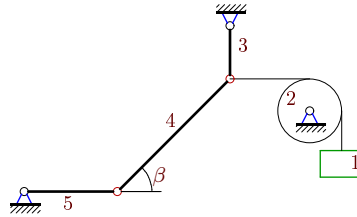
Ермаков В.



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

**Задача D-33.26.**

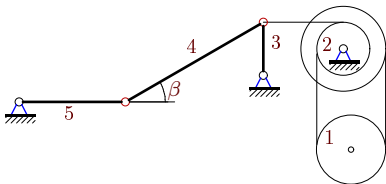
Алимов Шамиль



$m_1 = 14, m_2 = 10, m_3 = 3, m_4 = 18,$   
 $m_5 = 9, \beta = 45^\circ.$

**Задача D-33.27.**

Зуйков Игорь



$R_1 = 2.5, R_2 = 3, r_2 = 2, i_2 = 3, m_1 =$   
 $2, m_2 = 3, m_3 = 3, m_4 = 27, m_5 = 9,$   
 $\beta = 30^\circ.$