

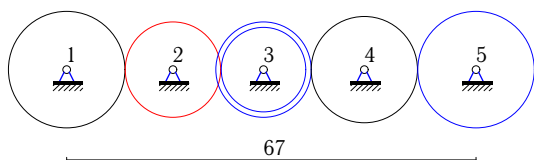
Передача вращений

Оси колес фрикционной передачи расположены на одной прямой. Даны радиусы колес 2-4, расстояние между крайними осями (см) и угловый скорости ведущего колеса 1 и ведомого 5 (с^{-1}). Найти радиусы колес 1 и 5.

Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.149.)

Задача К-6.1.

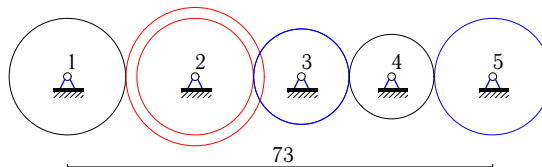
6



$$r_2 = 9, r_3 = 8, R_3 = 9, R_4 = 10, \\ \omega_1 = 8, \omega_5 = 27.$$

Задача К-6.2.

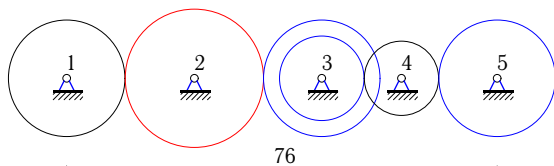
6



$$r_2 = 11, R_2 = 13, r_3 = 9, R_3 = 9, r_4 = 8, \\ \omega_1 = 104, \omega_5 = 77.$$

Задача К-6.3.

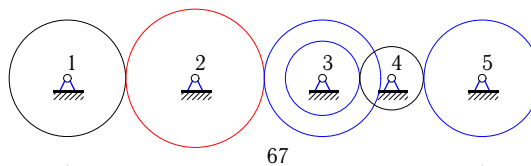
6



$$R_2 = 13, r_3 = 8, R_3 = 11, r_4 = 7, \\ \omega_1 = 39, \omega_5 = 52.$$

Задача К-6.4.

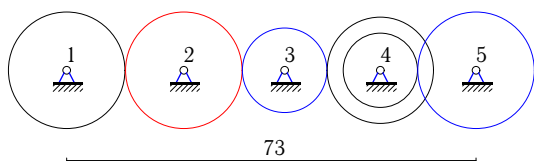
6



$$R_2 = 13, r_3 = 7, R_3 = 11, r_4 = 6, \\ \omega_1 = 572, \omega_5 = 637.$$

Задача К-6.5.

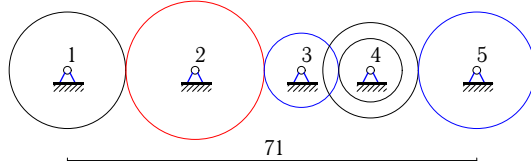
6



$$r_2 = 11, r_3 = 8, r_4 = 7, R_4 = 10, \\ \omega_1 = 5, \omega_5 = 7.$$

Задача К-6.6.

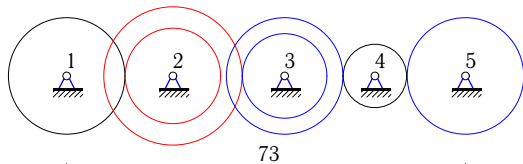
6



$$R_2 = 13, r_3 = 7, r_4 = 6, R_4 = 9, \\ \omega_1 = 130, \omega_5 = 429.$$

Задача К-6.7.

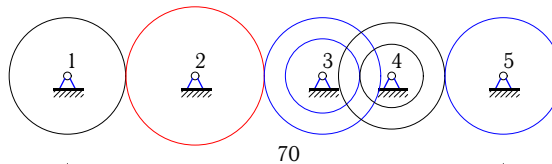
6



$$r_2 = 9, R_2 = 13, r_3 = 8, R_3 = 11, r_4 = 6, \\ \omega_1 = 48, \omega_5 = 143.$$

Задача К-6.8.

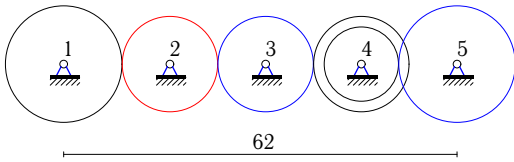
6



$$R_2 = 13, r_3 = 7, R_3 = 11, r_4 = 6, R_4 = 10, \\ \omega_1 = 1287, \omega_5 = 3185.$$

Задача К-6.9.

6

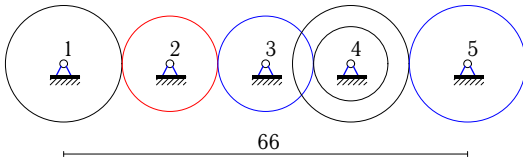


$$r_2 = 9, R_3 = 9, r_4 = 7, R_4 = 9,$$

$$\omega_1 = 9, \omega_5 = 7.$$

Задача К-6.11.

6

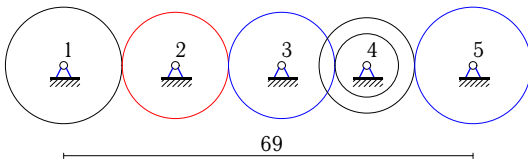


$$r_2 = 9, R_3 = 9, r_4 = 7, R_4 = 11,$$

$$\omega_1 = 14, \omega_5 = 11.$$

Задача К-6.13.

6

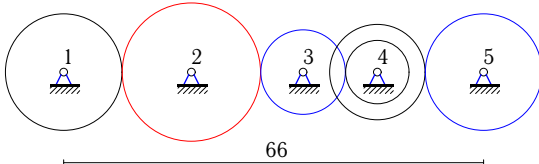


$$r_2 = 10, R_3 = 10, r_4 = 6, R_4 = 9,$$

$$\omega_1 = 8, \omega_5 = 9.$$

Задача К-6.15.

6

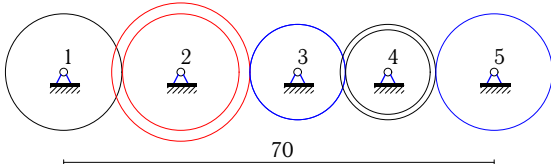


$$R_2 = 13, r_3 = 8, r_4 = 6, R_4 = 9,$$

$$\omega_1 = 104, \omega_5 = 195.$$

Задача К-6.17.

6



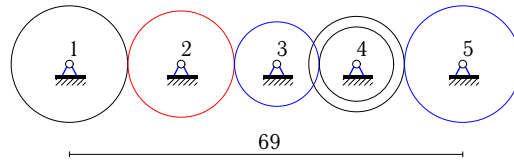
$$r_2 = 11, R_2 = 13, r_3 = 9, R_3 = 9, r_4 = 8,$$

$$R_4 = 9,$$

$$\omega_1 = 11, \omega_5 = 39.$$

Задача К-6.10.

6

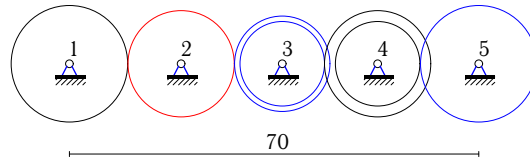


$$r_2 = 10, r_3 = 8, r_4 = 7, R_4 = 9,$$

$$\omega_1 = 49, \omega_5 = 90.$$

Задача К-6.12.

6

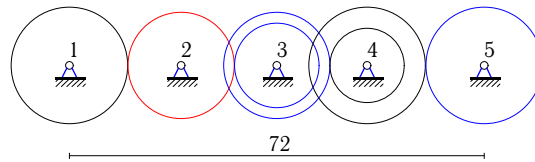


$$r_2 = 10, r_3 = 8, R_3 = 9, r_4 = 8, R_4 = 10,$$

$$\omega_1 = 135, \omega_5 = 64.$$

Задача К-6.14.

6

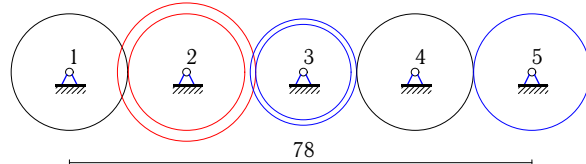


$$r_2 = 10, r_3 = 8, R_3 = 10, r_4 = 7, R_4 = 11,$$

$$\omega_1 = 84, \omega_5 = 275.$$

Задача К-6.16.

6

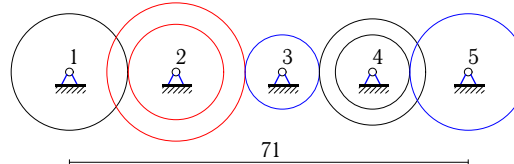


$$r_2 = 11, R_2 = 13, r_3 = 9, R_3 = 10, R_4 = 11,$$

$$\omega_1 = 396, \omega_5 = 325.$$

Задача К-6.18.

6

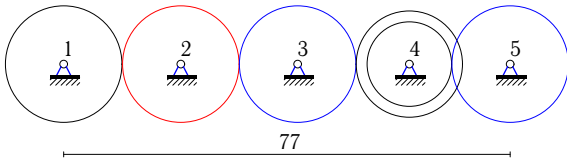


$$r_2 = 9, R_2 = 13, r_3 = 7, r_4 = 7, R_4 = 10,$$

$$\omega_1 = 90, \omega_5 = 143.$$

Задача К-6.19.

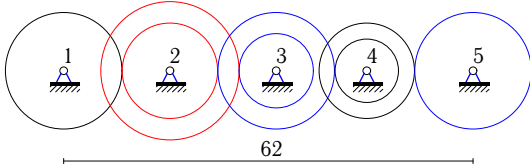
6



$$r_2 = 11, R_3 = 11, r_4 = 8, R_4 = 10, \\ \omega_1 = 5, \omega_5 = 6.$$

Задача К-6.21.

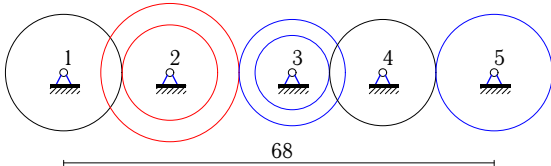
6



$$r_2 = 9, R_2 = 13, r_3 = 7, R_3 = 11, r_4 = 6, \\ R_4 = 9, \\ \omega_1 = 63, \omega_5 = 286.$$

Задача К-6.23.

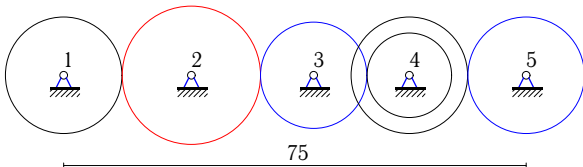
6



$$r_2 = 9, R_2 = 13, r_3 = 7, R_3 = 10, R_4 = 10, \\ \omega_1 = 72, \omega_5 = 91.$$

Задача К-6.25.

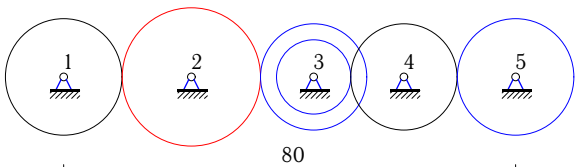
6



$$R_2 = 13, R_3 = 10, r_4 = 8, R_4 = 11, \\ \omega_1 = 312, \omega_5 = 1001.$$

Задача К-6.27.

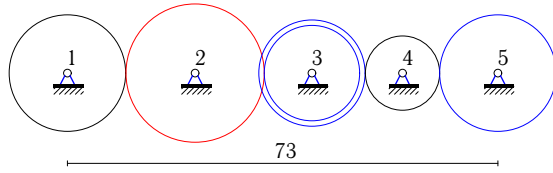
6



$$R_2 = 13, r_3 = 7, R_3 = 10, R_4 = 10, \\ \omega_1 = 585, \omega_5 = 364.$$

Задача К-6.20.

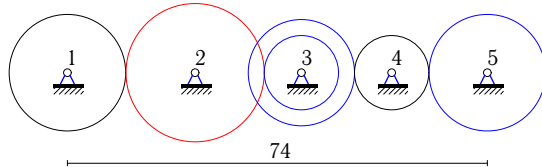
6



$$R_2 = 13, r_3 = 9, R_3 = 10, r_4 = 7, \\ \omega_1 = 351, \omega_5 = 520.$$

Задача К-6.22.

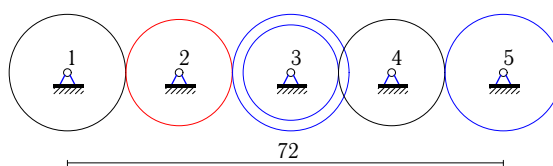
6



$$R_2 = 13, r_3 = 7, R_3 = 10, r_4 = 7, \\ \omega_1 = 13, \omega_5 = 13.$$

Задача К-6.24.

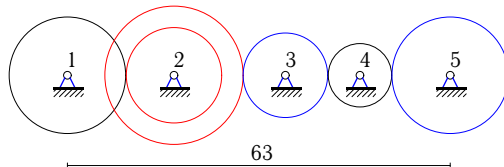
6



$$r_2 = 10, r_3 = 9, R_3 = 11, R_4 = 10, \\ \omega_1 = 77, \omega_5 = 45.$$

Задача К-6.26.

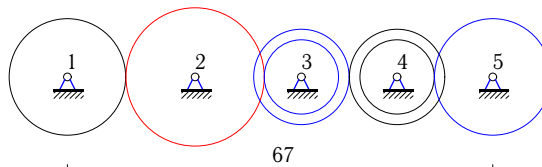
6



$$r_2 = 9, R_2 = 13, r_3 = 8, r_4 = 6, \\ \omega_1 = 4, \omega_5 = 13.$$

Задача К-6.28.

6



$$R_2 = 13, r_3 = 7, R_3 = 9, r_4 = 7, R_4 = 9, \\ \omega_1 = 65, \omega_5 = 52.$$

К-6 Ответы.
Передача вращений

21.04.2013

№	ω_2	ω_3	ω_4	R_1	R_5
1	8.000	9.000	8.100	9	3
2	56.000	68.444	77.000	7	8
3	33.000	39.000	44.571	11	6
4	308.000	364.000	424.667	7	4
5	5.455	7.500	6.000	12	6
6	110.000	204.286	238.333	11	5
7	64.000	104.000	190.667	12	8
8	693.000	819.000	955.500	7	3
9	5.000	5.000	5.000	5	5
10	49.000	61.250	70.000	10	7
11	6.222	6.222	8.000	4	8
12	81.000	90.000	72.000	6	9
13	4.800	4.800	8.000	6	8
14	84.000	105.000	150.000	10	6
15	40.000	65.000	86.667	5	4
16	180.000	260.000	236.364	5	8
17	8.000	11.556	13.000	8	3
18	110.000	204.286	143.000	11	7
19	4.091	4.091	4.500	9	6
20	216.000	312.000	445.714	8	6
21	28.000	52.000	95.333	4	3
22	7.000	13.000	18.571	7	10
23	40.000	52.000	36.400	5	4
24	38.500	35.000	31.500	5	7
25	168.000	218.400	273.000	7	3
26	4.000	6.500	8.667	9	4
27	360.000	468.000	327.600	8	9
28	20.000	37.143	37.143	4	5

К-6 файл обк6А