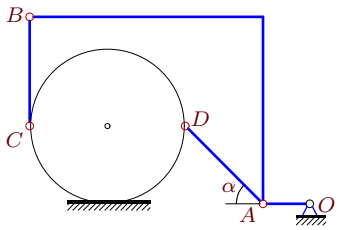
Кинематический анализ плоского механизма

В указанном положении механизма задана угловая скорость одного из звеньев. Длины звеньев даны в сантиметрах. Стержни, направление которых не указано, считать горизонтальными или вертикальными. Диск катится по горизонтальной поверхности без проскальзывания. Найти угловые скорости всех звеньев механизма.

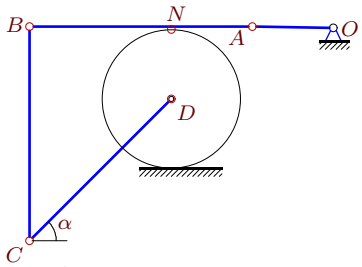
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.158.)

Задача 26.1. 43



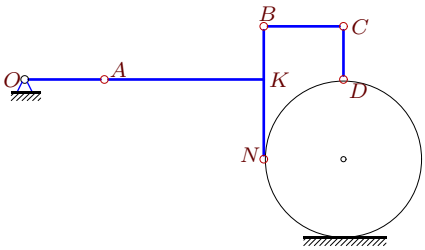
$\omega_{OA_z} = 10\frac{1}{c}$, $R = 5$, $OA = 3$,
$AD = 5\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.2. 43



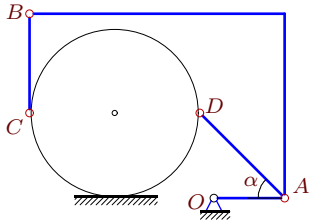
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 8$,
$CD = 14\sqrt{2}$, $AN = 8$, $AB = 22$, $\alpha = 45°$.

Задача 26.3. 43



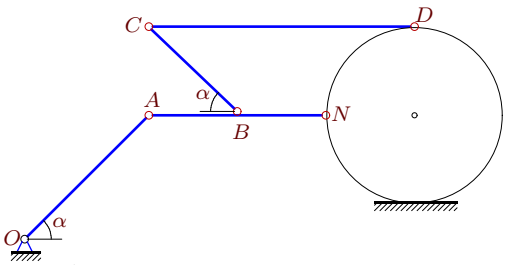
$\omega_{OA_z} = 1\frac{1}{c}$, $R = 3$, $OA = 3$,
$AK = 6$, $BK = 2$, $KN = 3$, $CD = 2$.

Задача 26.4. 43



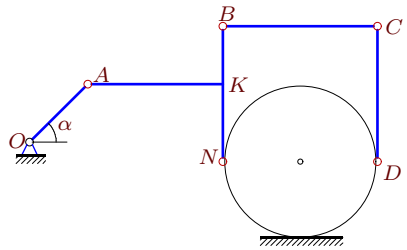
$\omega_{OA_z} = 12\frac{1}{c}$, $R = 6$, $OA = 5$,
$AD = 6\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.5. 43



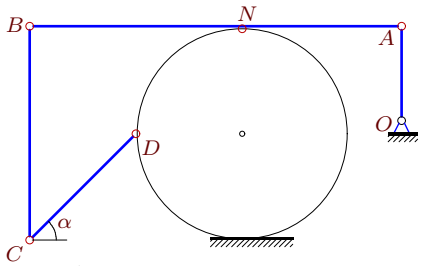
$\omega_{OA_z} = 15\frac{1}{c}$, $R = 5$, $OA = 7\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 15$, α=45°

Задача 26.6. 43



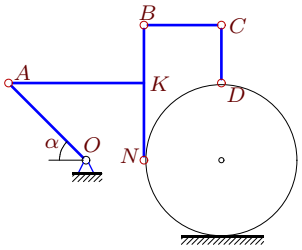
$\omega_{OA_z} = 4\frac{1}{c}$, $R = 4$, $OA = 3\sqrt{2}$,
$AK = 7$, $BK = 3$, $KN = 4$, $CD = 7$, $\alpha = 45°$.

Задача 26.7. 43



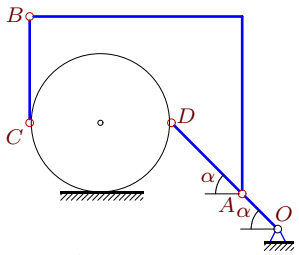
$\omega_{OA_z} = 16\frac{1}{c}$, $R = 8$, $OA = 7$,
$CD = 8\sqrt{2}$, $AN = 12$, $AB = 28$, $\alpha = 45°$.

Задача 26.8. 43



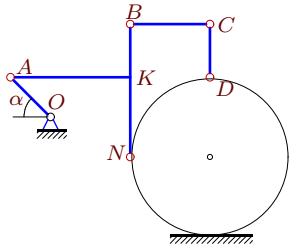
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
$AK = 7$, $BK = 3$, $KN = 4$, $CD = 3$, $\alpha = 45°$.

Задача 26.9.



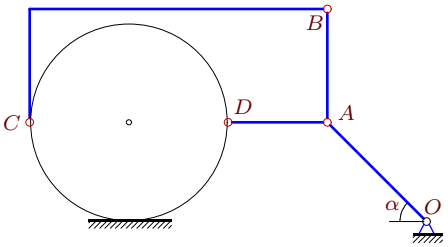
$\omega_{OA_z} = 18\frac{1}{c}$, $R = 6$, $OA = 3\sqrt{2}$,
$AD = 6\sqrt{2}$, $BC = 9$, $\alpha = 45°$.

Задача 26.10.



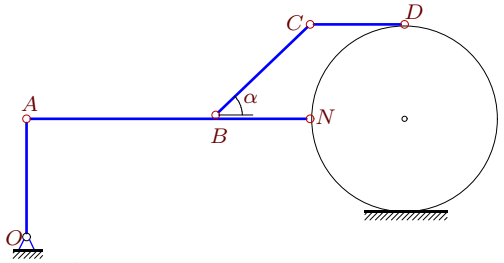
$\omega_{OA_z} = 4\frac{1}{c}$, $R = 6$, $OA = 3\sqrt{2}$,
$AK = 9$, $BK = 4$, $KN = 6$, $CD = 4$, $\alpha = 45°$.

Задача 26.11.



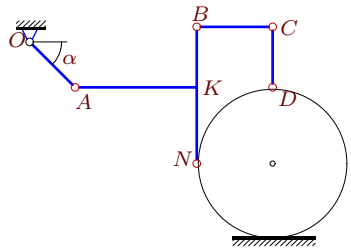
$\omega_{OA_z} = 1\frac{1}{c}$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 8$, $AD = 7$, $\alpha = 45°$.

Задача 26.12.



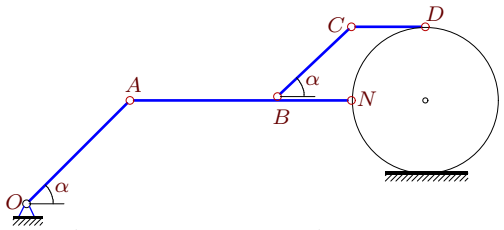
$\omega_{OA_z} = 12\frac{1}{c}$, $R = 4$, $OA = 5$,
$AB = 8$, $BN = 4$, $BC = 4\sqrt{2}$, $CD = 4$, α=45°

Задача 26.13.



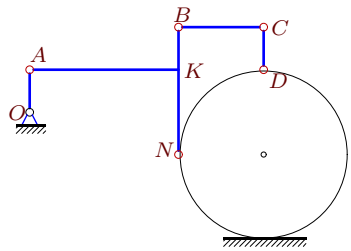
$\omega_{OA_z} = 20\frac{1}{c}$, $R = 5$, $OA = 3\sqrt{2}$,
$AK = 8$, $BK = 4$, $KN = 5$, $CD = 4$, $\alpha = 45°$.

Задача 26.14.



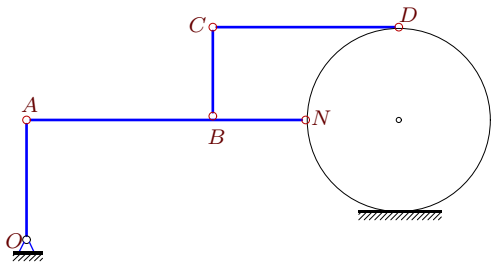
$\omega_{OA_z} = 15\frac{1}{c}$, $R = 5$, $OA = 7\sqrt{2}$,
$AB = 10$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, α=45°

Задача 26.15.



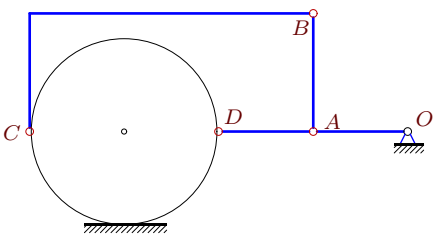
$\omega_{OA_z} = 6\frac{1}{c}$, $R = 4$, $OA = 2$,
$AK = 7$, $BK = 2$, $KN = 4$, $CD = 2$.

Задача 26.16.



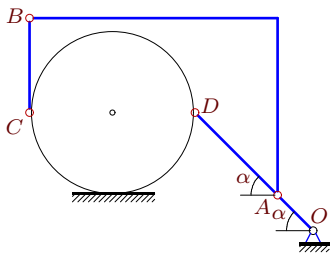
$\omega_{OA_z} = 7\frac{1}{c}$, $R = 7$, $OA = 9$,
$AB = 14$, $BN = BC = 7$, $CD = 14$.

Задача 26.17.



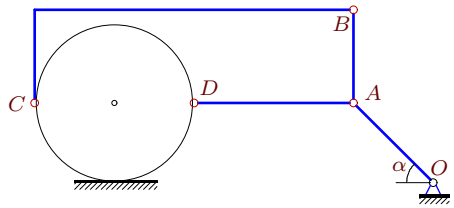
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 4$, $OA = 4$,
$AB = 5$, $AD = 4$.

Задача 26.18.



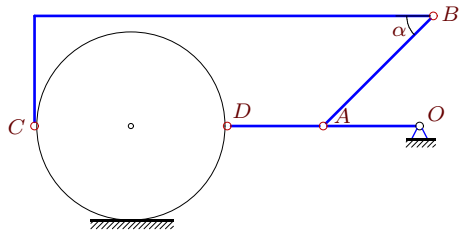
$\omega_{OA_z} = 28\frac{1}{c}$, $R = 7$, $OA = 3\sqrt{2}$,
$AD = 7\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

Задача 26.19.



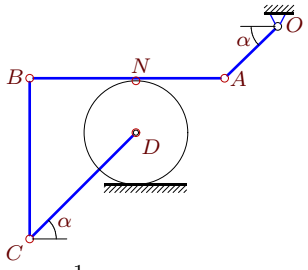
$\omega_{OA_z} = 1\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
$AB = 7$, $AD = 12$, $\alpha = 45°$.

Задача 26.20.



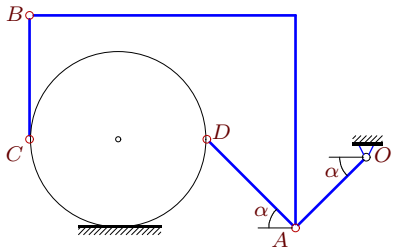
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7$,
$AB = 8\sqrt{2}$, $AD = 7$, $\alpha = 45°$.

Задача 26.21.



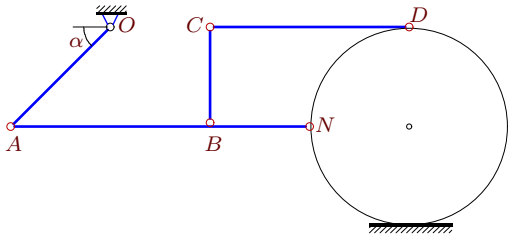
$\omega_{OA_z} = 30\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 10$, $AB = 22$, $\alpha = 45°$.

Задача 26.22.



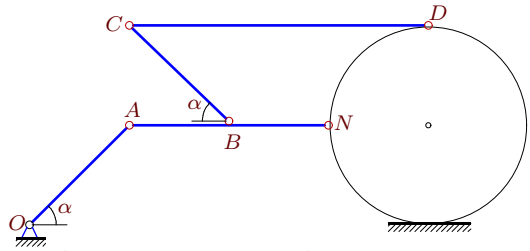
$\omega_{OA_z} = 105\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AD = 5\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.23.



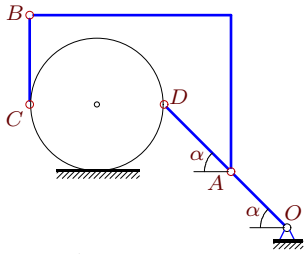
$\omega_{OA_z} = 6\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
$AB = 12$, $BN = BC = 6$, $CD = 12$, α=45°

Задача 26.24.



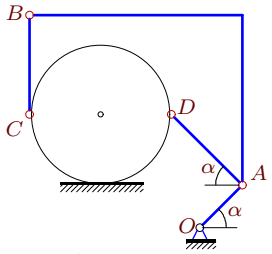
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 7$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 21$, α=45°

Задача 26.25.



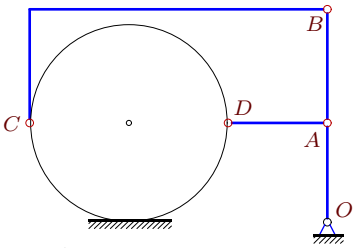
$\omega_{OA_z} = 36\frac{1}{c}$, $R = 6$, $OA = 5\sqrt{2}$,
$AD = 6\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

Задача 26.26.



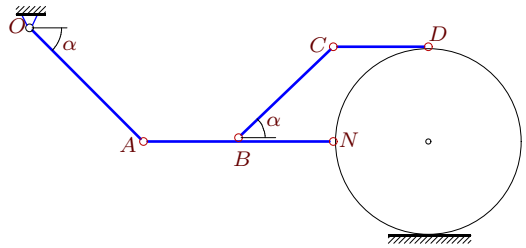
$\omega_{OA_z} = 35\frac{1}{c}$, $R = 5$, $OA = 3\sqrt{2}$,
$AD = 5\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.27.



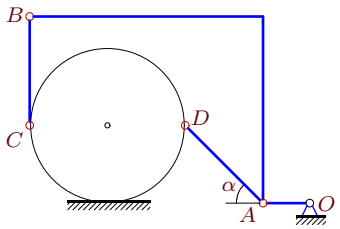
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7$,
$AB = 8$, $AD = 7$.

Задача 26.28.



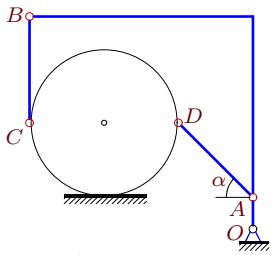
$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 6\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, α=45°

Задача 26.29.



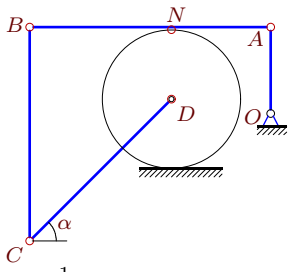
$\omega_{OA_z} = 10\frac{1}{c}$, $R = 5$, $OA = 3$,
$AD = 5\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.30.



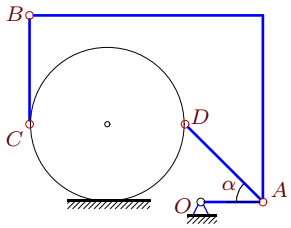
$\omega_{OA_z} = 70\frac{1}{c}$, $R = 7$, $OA = 3$,
$AD = 7\sqrt{2}$, $BC = 10$, $\alpha = 45°$.

Задача 26.31.



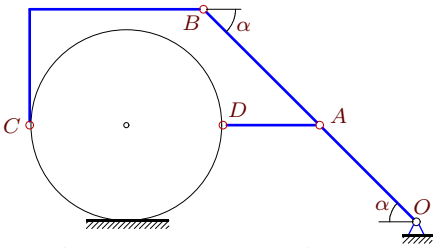
$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 6$,
$CD = 10\sqrt{2}$, $AN = 7$, $AB = 17$, $\alpha = 45°$.

Задача 26.32.



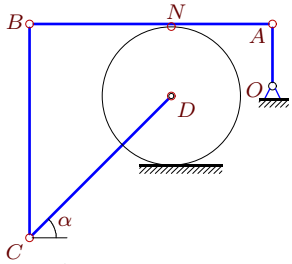
$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 4$,
$AD = 5\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача 26.33.



$\omega_{OA_z} = 1\frac{1}{c}$, $R = 5$, $OA = 5\sqrt{2}$,
$AB = 6\sqrt{2}$, $AD = 5$, $\alpha = 45°$.

Задача 26.34.



$\omega_{OA_z} = 7\frac{1}{c}$, $R = 7$, $OA = 6$,
$CD = 14\sqrt{2}$, $AN = 10$, $AB = 24$, $\alpha = 45°$.

26.43

Кинематический анализ плоского механизма

№	ω_{AB_z}	ω_{BC_z}	ω_{CD_z}	ω_{DA_z}	$\omega_{\text{диск}_z}$
1	-3	-3	–	-3	-3
2	-3	-2	-3	–	0
3	-1	1	-4	–	1
4	5	5	–	5	5
5	-21	21	7	–	21
6	-8	11	-8	–	11
7	0	0	-7	–	7
8	0	3	-4	–	3
9	-3	1	–	-9	0
10	0	2	-3	–	2
11	0	0	–	-2	1
12	-5	15	-5	–	15
13	0	-12	15	–	-12
14	-14	21	-14	–	21
15	-4	7	-26	–	7
16	-3	9	3	–	9
17	-1	-1	–	-3	0
18	-4	3	–	-12	0
19	0	0	–	-1	1
20	-1	-1	–	-3	0
21	-18	-17	-18	–	-15
22	-56	-96	–	0	-84
23	4	-6	-1	–	-6
24	-3	3	1	–	3
25	-10	5	–	-30	0
26	14	24	–	0	21
27	1	1	–	-3	3
28	0	-6	0	–	-6
29	-3	-3	–	-3	-3
30	5	19	–	-15	15
31	0	1	0	–	3
32	2	2	–	2	2
33	0	0	–	-2	1
34	0	1	0	–	3