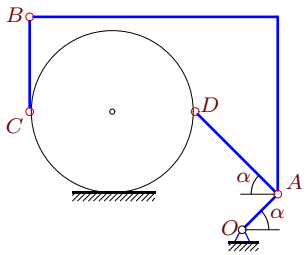
Кинематический анализ плоского механизма

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.

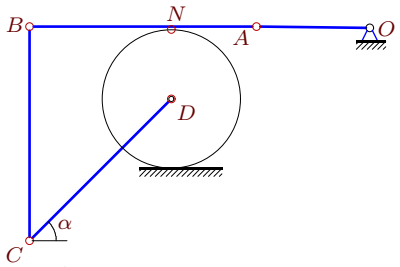
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.158.)

Задача 26.1. 42



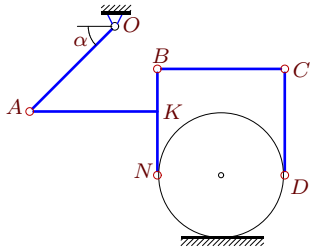
$\omega_{OA_z} = 28\frac{1}{c}$, $R = 7$, $OA = 3\sqrt{2}$,
$AD = 7\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

Задача 26.2. 42



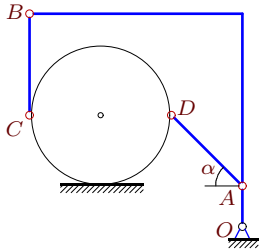
$\omega_{OA_z} = 9\frac{1}{c}$, $R = 5$, $OA = 8$,
$CD = 10\sqrt{2}$, $AN = 6$, $AB = 16$, $\alpha = 45°$.

Задача 26.3. 42



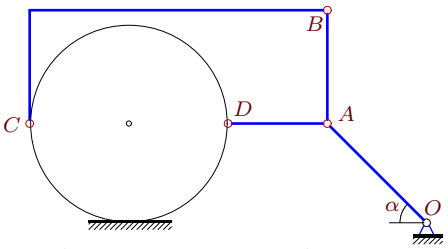
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 3$, $OA = 4\sqrt{2}$,
$AK = 6$, $BK = 2$, $KN = 3$, $CD = 5$, $\alpha = 45°$.

Задача 26.4. 42



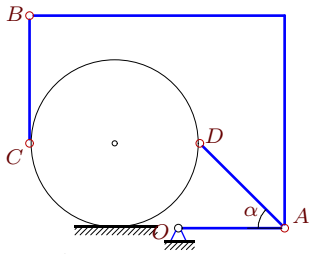
$\omega_{OA_z} = 105\frac{1}{c}$, $R = 7$, $OA = 4$,
$AD = 7\sqrt{2}$, $BC = 10$, $\alpha = 45°$.

Задача 26.5. 42



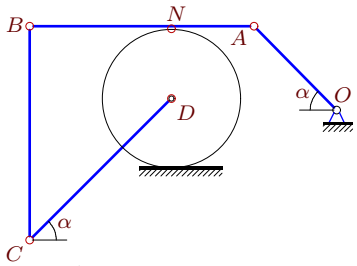
$\omega_{OA_z} = 1\frac{1}{c}$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 8$, $AD = 7$, $\alpha = 45°$.

Задача 26.6. 42



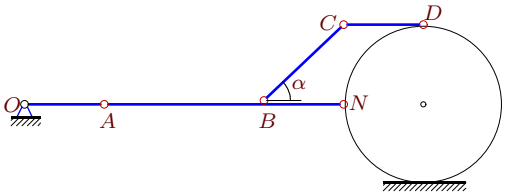
$\omega_{OA_z} = 8\frac{1}{c}$, $R = 4$, $OA = 5$,
$AD = 4\sqrt{2}$, $BC = 6$, $\alpha = 45°$.

Задача 26.7. 42



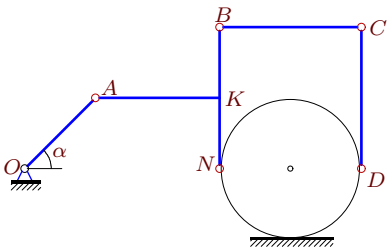
$\omega_{OA_z} = 36\frac{1}{c}$, $R = 6$, $OA = 7\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 7$, $AB = 19$, $\alpha = 45°$.

Задача 26.8. 42



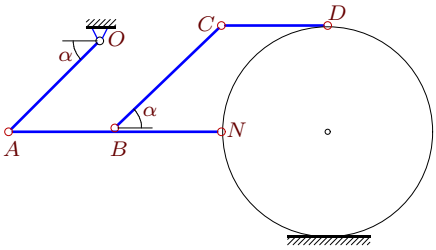
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 6$, $OA = 6$,
$AB = 12$, $BN = 6$, $BC = 6\sqrt{2}$, $CD = 6$, α=45°

Задача 26.9. 42



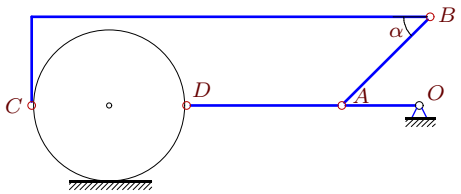
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
$AK = 7$, $BK = 4$, $KN = 4$, $CD = 8$, $\alpha = 45°$.

Задача 26.10. 42



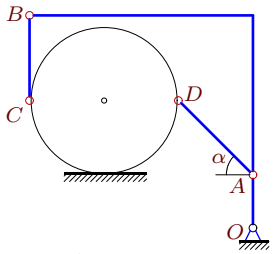
$\omega_{OA_z} = 7\frac{1}{c}$, $R = 7$, $OA = 6\sqrt{2}$,
$AB = 7$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 7$, α=45°

Задача 26.11. 42



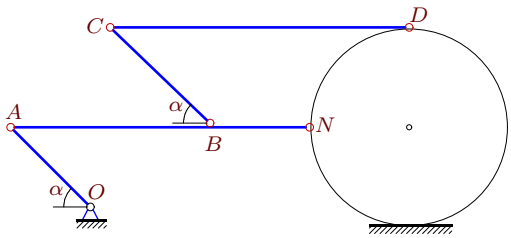
$\omega_{OA_z} = 4\frac{1}{c}$, $R = 7$, $OA = 7$,
$AB = 8\sqrt{2}$, $AD = 14$, $\alpha = 45°$.

Задача 26.12. 42



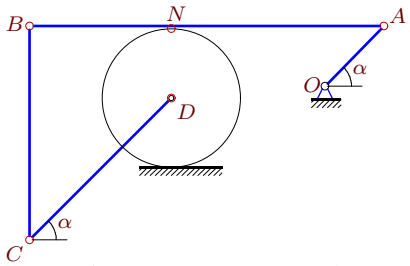
$\omega_{OA_z} = 84\frac{1}{c}$, $R = 7$, $OA = 5$,
$AD = 7\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

Задача 26.13. 42



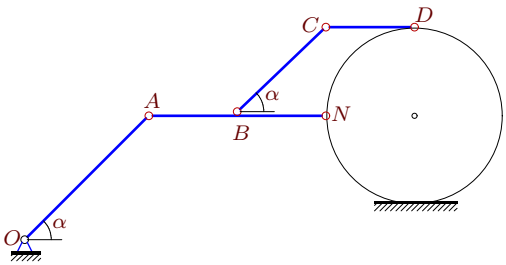
$\omega_{OA_z} = 15\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AB = 10$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 15$, α=45°

Задача 26.14. 42



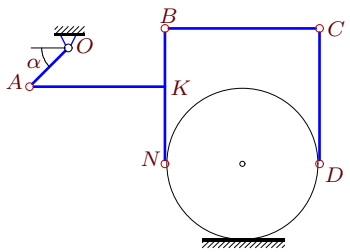
$\omega_{OA_z} = 108\frac{1}{c}$, $R = 6$, $OA = 5\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 18$, $AB = 30$, $\alpha = 45°$.

Задача 26.15. 42



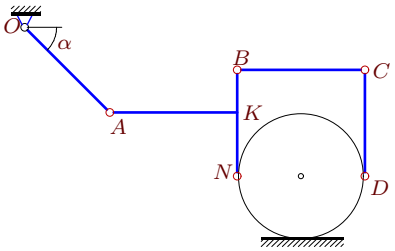
$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 7\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, α=45°

Задача 26.16. 42



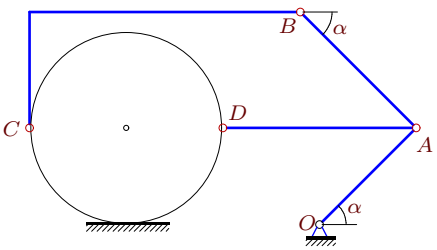
$\omega_{OA_z} = 6\frac{1}{c}$, $R = 4$, $OA = 2\sqrt{2}$,
$AK = 7$, $BK = 3$, $KN = 4$, $CD = 7$, $\alpha = 45°$.

Задача 26.17. 42



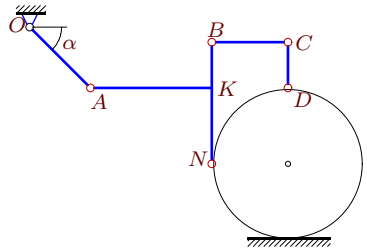
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 3$, $OA = 4\sqrt{2}$,
$AK = 6$, $BK = 2$, $KN = 3$, $CD = 5$, $\alpha = 45°$.

Задача 26.18. 42



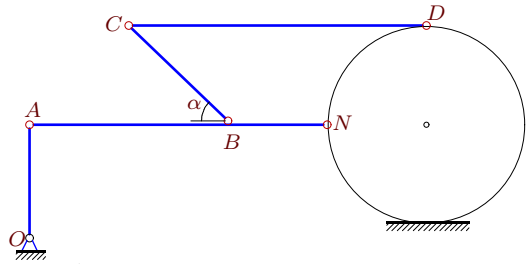
$\omega_{OA_z} = 2\frac{1}{c}$, $R = 5$, $OA = 5\sqrt{2}$,
$AB = 6\sqrt{2}$, $AD = 10$, $\alpha = 45°$.

Задача 26.19.



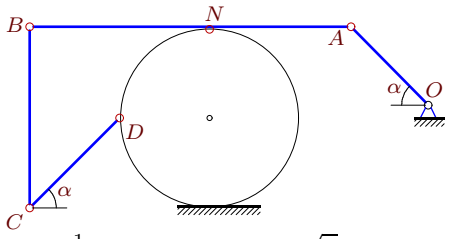
$\omega_{OA_z} = 15\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AK = 8$, $BK = 3$, $KN = 5$, $CD = 3$, $\alpha = 45°$.

Задача 26.20.



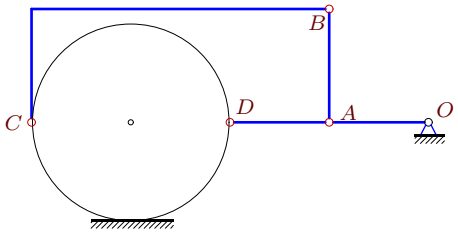
$\omega_{OA_z} = 63\frac{1}{c}$, $R = 7$, $OA = 8$,
$AB = 14$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 21$, α=45°

Задача 26.21.



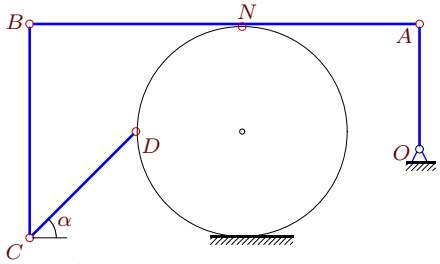
$\omega_{OA_z} = 77\frac{1}{c}$, $R = 7$, $OA = 6\sqrt{2}$,
$CD = 7\sqrt{2}$, $AN = 11$, $AB = 25$, $\alpha = 45°$.

Задача 26.22.



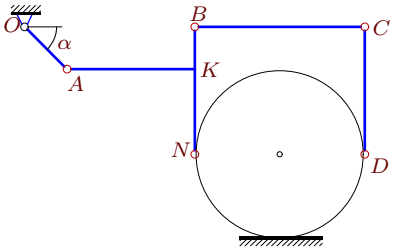
$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7$,
$AB = 8$, $AD = 7$.

Задача 26.23.



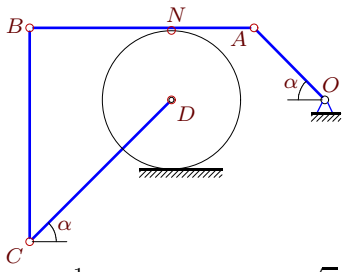
$\omega_{OA_z} = 12\frac{1}{c}$, $R = 6$, $OA = 7$,
$CD = 6\sqrt{2}$, $AN = 10$, $AB = 22$, $\alpha = 45°$.

Задача 26.24.



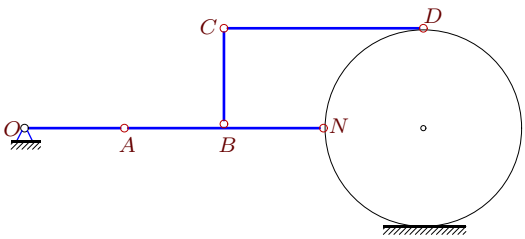
$\omega_{OA_z} = 2\frac{1}{c}$, $R = 6$, $OA = 3\sqrt{2}$,
$AK = 9$, $BK = 3$, $KN = 6$, $CD = 9$, $\alpha = 45°$.

Задача 26.25.



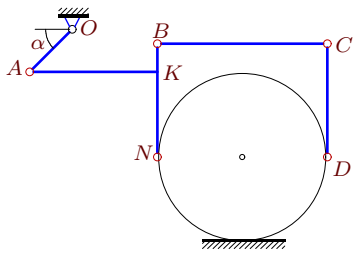
$\omega_{OA_z} = 42\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 7$, $AB = 19$, $\alpha = 45°$.

Задача 26.26.



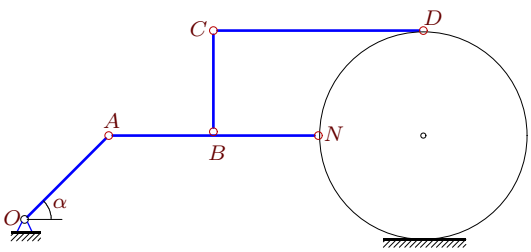
$\omega_{OA_z} = 4\frac{1}{c}$, $R = 6$, $OA = 6$,
$AB = 6$, $BN = 6$, $BC = 6\sqrt{2}$, $CD = 12$.

Задача 26.27.



$\omega_{OA_z} = 2\frac{1}{c}$, $R = 6$, $OA = 3\sqrt{2}$,
$AK = 9$, $BK = 2$, $KN = 6$, $CD = 8$, $\alpha = 45°$.

Задача 26.28.



$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 10$, α=45°

26.42

Кинематический анализ плоского механизма

№	ω_{AB_z}	ω_{BC_z}	ω_{CD_z}	ω_{DA_z}	$\omega_{\text{диск}_z}$
1	8	15	–	0	12
2	-12	-8	-12	–	0
3	8	-12	8	–	-12
4	10	38	–	-30	30
5	0	0	–	-2	1
6	5	5	–	5	5
7	-36	-17	-36	–	21
8	-1	0	-1	–	0
9	-8	11	-8	–	11
10	6	-6	6	–	-6
11	-1	-1	–	-2	0
12	10	45	–	-30	30
13	0	12	8	–	12
14	30	35	30	–	45
15	-7	7	-7	–	7
16	8	-11	8	–	-11
17	0	-4	0	–	-4
18	1	1	–	0	2
19	0	-12	20	–	-12
20	-24	72	40	–	72
21	-42	-42	-117	–	33
22	-1	-1	–	-3	0
23	0	0	-7	–	7
24	0	-1	0	–	-1
25	-36	-17	-36	–	21
26	-2	0	-1	–	0
27	4	-5	4	–	-5
28	-4	4	0	–	4