

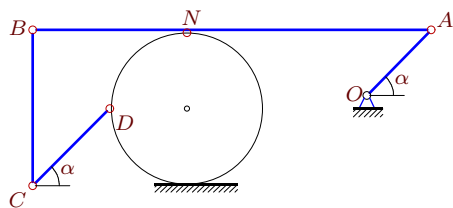
Кинематический анализ плоского механизма

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.

44

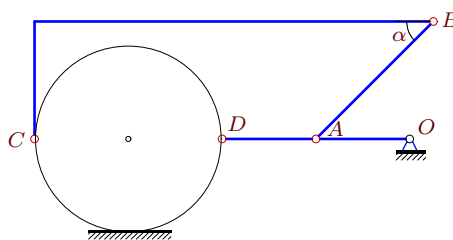


$$\omega_{OA_z} = 228 \frac{1}{c}, R = 6, OA = 5\sqrt{2},$$

$$CD = 6\sqrt{2}, AN = 19, AB = 31, \alpha = 45^\circ.$$

Задача 26.2.

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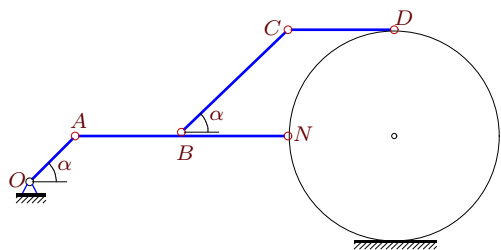


$$\omega_{OA_z} = 3 \frac{1}{c}, R = 4, OA = 4,$$

$$AB = 5\sqrt{2}, AD = 4, \alpha = 45^\circ.$$

Задача 26.3.

44

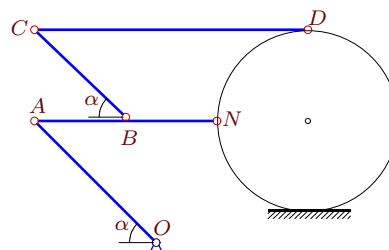


$$\omega_{OA_z} = 7 \frac{1}{c}, R = 7, OA = 3\sqrt{2},$$

$$AB = 7, BN = 7, BC = 7\sqrt{2}, CD = 7, \alpha = 45^\circ$$

Задача 26.4.

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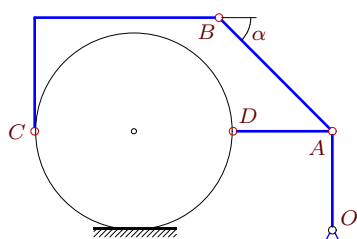


$$\omega_{OA_z} = 9 \frac{1}{c}, R = 6, OA = 8\sqrt{2},$$

$$AB = 6, BN = 6, BC = 6\sqrt{2}, CD = 18, \alpha = 45^\circ$$

Задача 26.5.

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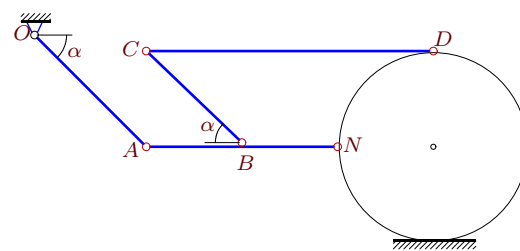


$$\omega_{OA_z} = 3 \frac{1}{c}, R = 7, OA = 7,$$

$$AB = 8\sqrt{2}, AD = 7, \alpha = 45^\circ.$$

Задача 26.6.

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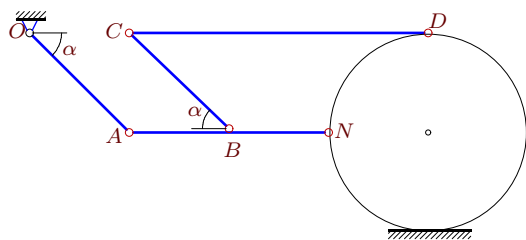


$$\omega_{OA_z} = 18 \frac{1}{c}, R = 6, OA = 7\sqrt{2},$$

$$AB = 6, BN = 6, BC = 6\sqrt{2}, CD = 18, \alpha = 45^\circ$$

Задача 26.7.

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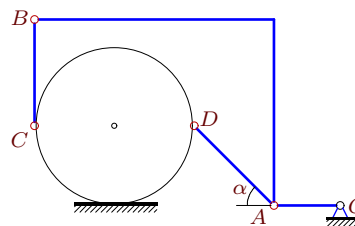


$$\omega_{OA_z} = 3 \frac{1}{c}, R = 7, OA = 7\sqrt{2},$$

$$AB = 7, BN = 7, BC = 7\sqrt{2}, CD = 21, \alpha = 45^\circ$$

Задача 26.8.

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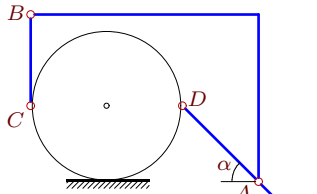


$$\omega_{OA_z} = 12 \frac{1}{c}, R = 6, OA = 5,$$

$$AD = 6\sqrt{2}, BC = 8, \alpha = 45^\circ.$$

Задача 26.9.

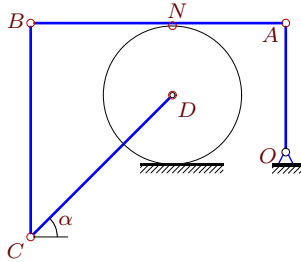
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$\omega_{OA_z} = 15\frac{1}{c}$, $R = 5$, $OA = 3\sqrt{2}$,
 $AD = 5\sqrt{2}$, $BC = 6$, $\alpha = 45^\circ$.

Задача 26.11.

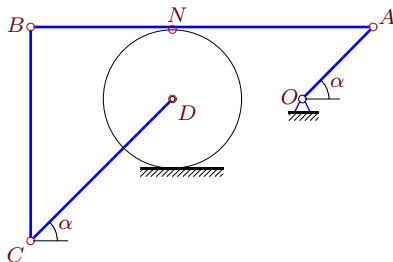
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$\omega_{OA_z} = 10\frac{1}{c}$, $R = 5$, $OA = 9$,
 $CD = 10\sqrt{2}$, $AN = 8$, $AB = 18$, $\alpha = 45^\circ$.

Задача 26.13.

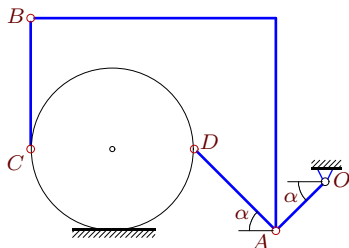
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$\omega_{OA_z} = 102\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
 $CD = 12\sqrt{2}$, $AN = 17$, $AB = 29$, $\alpha = 45^\circ$.

Задача 26.15.

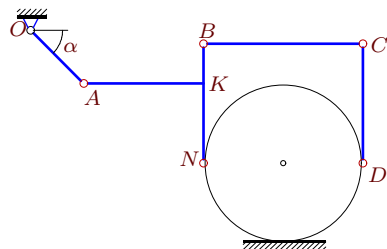
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$\omega_{OA_z} = 20\frac{1}{c}$, $R = 5$, $OA = 3\sqrt{2}$,
 $AD = 5\sqrt{2}$, $BC = 8$, $\alpha = 45^\circ$.

Задача 26.17.

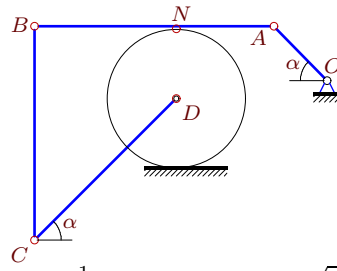
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 6$, $OA = 4\sqrt{2}$,
 $AK = 9$, $BK = 3$, $KN = 6$, $CD = 9$, $\alpha = 45^\circ$.

Задача 26.10.

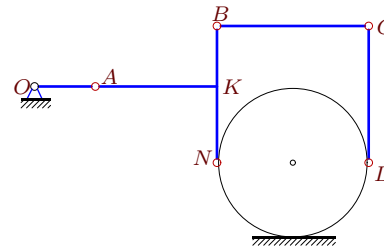
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$\omega_{OA_z} = 88\frac{1}{c}$, $R = 8$, $OA = 6\sqrt{2}$,
 $CD = 16\sqrt{2}$, $AN = 11$, $AB = 27$, $\alpha = 45^\circ$.

Задача 26.12.

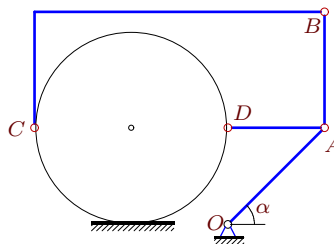
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 5$, $OA = 4$,
 $AK = 8$, $BK = 4$, $KN = 5$, $CD = 9$.

Задача 26.14.

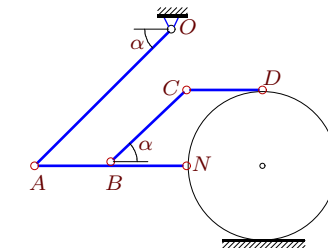
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 5$, $OA = 5\sqrt{2}$,
 $AB = 6$, $AD = 5$, $\alpha = 45^\circ$.

Задача 26.16.

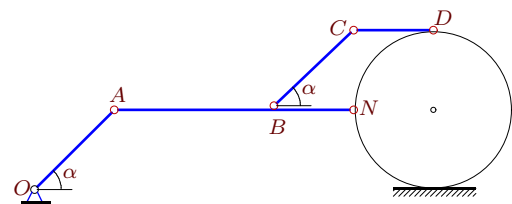
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$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 9\sqrt{2}$,
 $AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, $\alpha = 45^\circ$.

Задача 26.18.

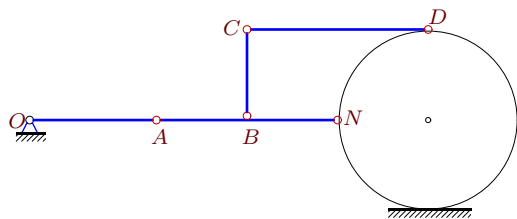
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7\sqrt{2}$,
 $AB = 14$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 7$, $\alpha = 45^\circ$.

Задача 26.19.

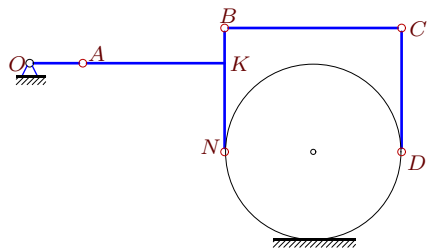
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$\omega_{OA_z} = 20\frac{1}{c}$, $R = 5$, $OA = 7$,
 $AB = 5$, $BN = BC = 5$, $CD = 10$.

Задача 26.21.

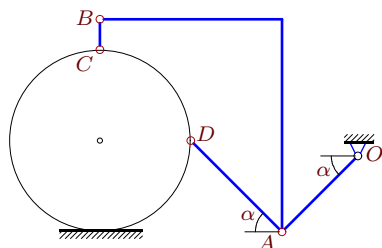
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$\omega_{OA_z} = 1\frac{1}{c}$, $R = 5$, $OA = 3$,
 $AK = 8$, $BK = 2$, $KN = 5$, $CD = 7$.

Задача 26.23.

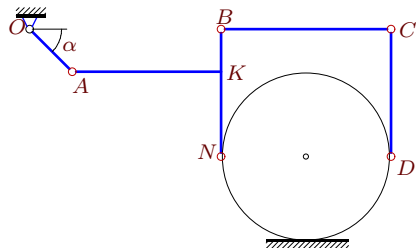
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$\omega_{OA_z} = 12\frac{1}{c}$, $R = 6$, $OA = 5\sqrt{2}$,
 $AD = 6\sqrt{2}$, $BC = 2$, $\alpha = 45^\circ$.

Задача 26.25.

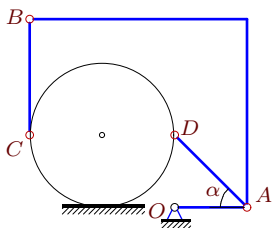
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$\omega_{OA_z} = 2\frac{1}{c}$, $R = 4$, $OA = 2\sqrt{2}$,
 $AK = 7$, $BK = 2$, $KN = 4$, $CD = 6$, $\alpha = 45^\circ$.

Задача 26.27.

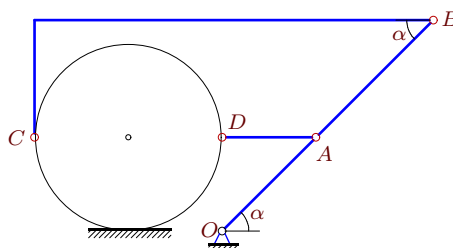
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$\omega_{OA_z} = 2\frac{1}{c}$, $R = 5$, $OA = 5$,
 $AD = 5\sqrt{2}$, $BC = 8$, $\alpha = 45^\circ$.

Задача 26.20.

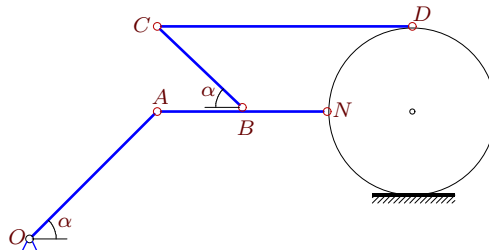
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
 $AB = 5\sqrt{2}$, $AD = 4$, $\alpha = 45^\circ$.

Задача 26.22.

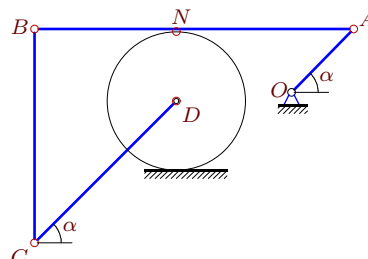
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$\omega_{OA_z} = 2\frac{1}{c}$, $R = 4$, $OA = 6\sqrt{2}$,
 $AB = 4$, $BN = 4$, $BC = 4\sqrt{2}$, $CD = 12$, $\alpha = 45^\circ$.

Задача 26.24.

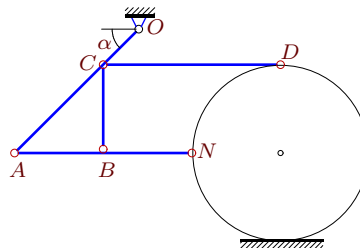
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$\omega_{OA_z} = 240\frac{1}{c}$, $R = 8$, $OA = 7\sqrt{2}$,
 $CD = 16\sqrt{2}$, $AN = 20$, $AB = 36$, $\alpha = 45^\circ$.

Задача 26.26.

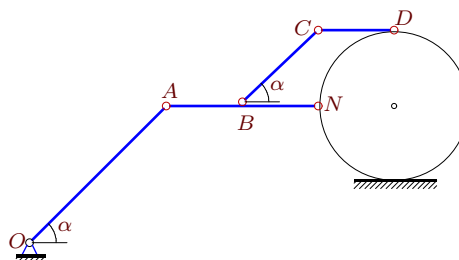
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$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 7\sqrt{2}$,
 $AB = 5$, $BN = BC = 5$, $CD = 10$, $\alpha = 45^\circ$.

Задача 26.28.

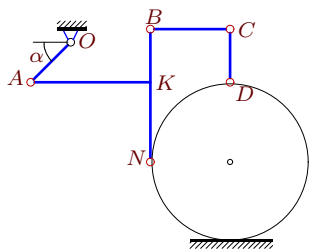
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$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 9\sqrt{2}$,
 $AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, $\alpha = 45^\circ$.

Задача 26.29.

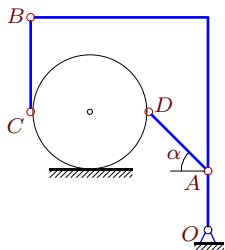
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$\omega_{OA_z} = 4\frac{1}{c}$, $R = 6$, $OA = 3\sqrt{2}$,
 $AK = 9$, $BK = 4$, $KN = 6$, $CD = 4$, $\alpha = 45^\circ$.

Задача 26.31.

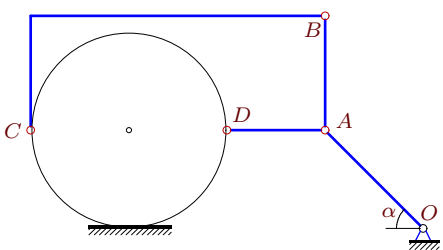
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$\omega_{OA_z} = 12\frac{1}{c}$, $R = 5$, $OA = 5$,
 $AD = 5\sqrt{2}$, $BC = 8$, $\alpha = 45^\circ$.

Задача 26.33.

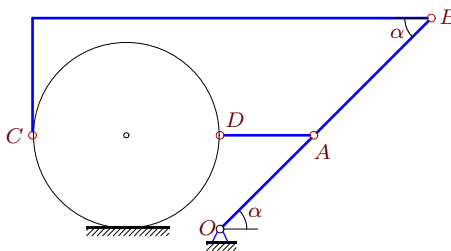
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$\omega_{OA_z} = 1\frac{1}{c}$, $R = 6$, $OA = 6\sqrt{2}$,
 $AB = 7$, $AD = 6$, $\alpha = 45^\circ$.

Задача 26.30.

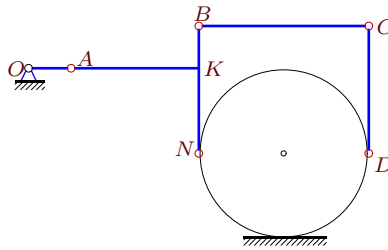
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$\omega_{OA_z} = 3\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
 $AB = 5\sqrt{2}$, $AD = 4$, $\alpha = 45^\circ$.

Задача 26.32.

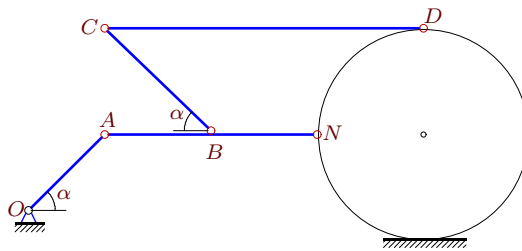
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$\omega_{OA_z} = 1\frac{1}{c}$, $R = 6$, $OA = 3$,
 $AK = 9$, $BK = 3$, $KN = 6$, $CD = 9$.

Задача 26.34.

44



$\omega_{OA_z} = 21\frac{1}{c}$, $R = 7$, $OA = 5\sqrt{2}$,
 $AB = 7$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 21$, $\alpha = 45^\circ$.

Кинематический анализ плоского механизма

№	ω_{AB_z}	ω_{BC_z}	ω_{CD_z}	ω_{DA_z}	$\omega_{диск_z}$
1	60	60	25	—	95
2	-1	-1	—	-3	0
3	-3	3	-3	—	3
4	0	12	8	—	12
5	1	1	—	-3	3
6	0	-21	-14	—	-21
7	0	-3	-2	—	-3
8	-5	-5	—	-5	-5
9	-3	2	—	-9	0
10	-48	-21	-48	—	33
11	0	3	0	—	9
12	-4	4	-4	—	4
13	36	41	36	—	51
14	2	2	—	0	3
15	-8	-13	—	0	-12
16	9	-9	9	—	-9
17	0	-2	0	—	-2
18	-2	3	-2	—	3
19	-14	0	-7	—	0
20	2	2	—	0	3
21	-1	1	-1	—	1
22	-3	3	1	—	3
23	-5	-5	—	0	-10
24	84	91	84	—	105
25	0	-1	0	—	-1
26	7	-7	0	—	-7
27	1	1	—	1	1
28	-9	9	-9	—	9
29	8	-10	35	—	-10
30	2	2	—	0	3
31	2	7	—	-6	6
32	-1	1	-1	—	1
33	0	0	—	-2	1
34	-15	15	5	—	15