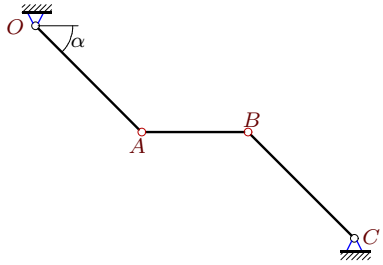
Кинематический анализ механизма. Угловые ускорения

В указанном положении механизма задана постоянная угловая скорость звена OA. Длины звеньев даны в сантиметрах. Звенья, направление которых не указано, принимать вертикальными или горизонтальными. Найти угловые ускорения звеньев AB и BC.

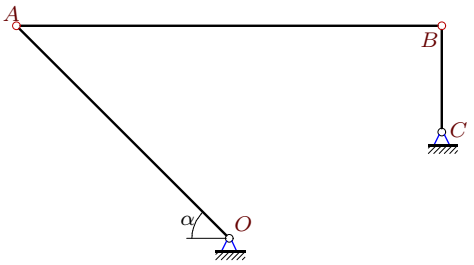
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.158.)

Задача 24.1. 6



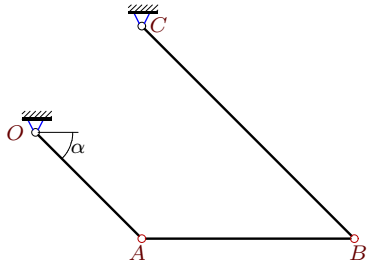
$\omega_{OAz} = -7$ рад/с, $OA||BC$,
$OA = 7\sqrt{2}$, $AB = 7$, $BC = 7\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.2. 6



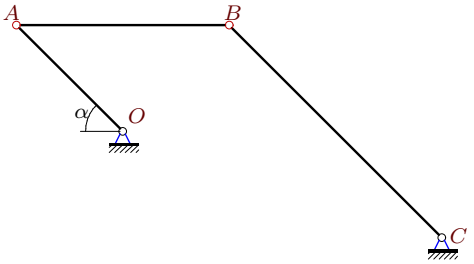
$\omega_{OAz} = 4$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 4$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.3. 6



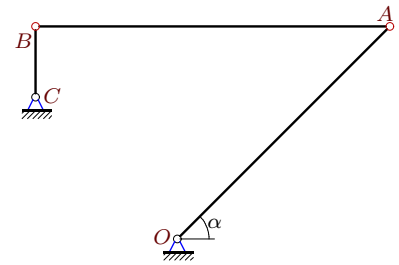
$\omega_{OAz} = 8$ рад/с, $OA||BC$,
$OA = 2\sqrt{2}$, $AB = 4$, $BC = 4\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.4. 6



$\omega_{OAz} = 20$ рад/с, $OA||BC$,
$OA = 5\sqrt{2}$, $AB = 10$, $BC = 10\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.5. 6

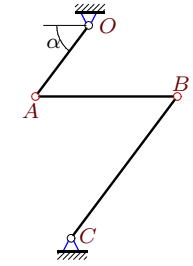


$\omega_{OAz} = -5$ рад/с, $AB \perp BC$,
$OA = 3\sqrt{2}$, $AB = 5$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.6. 6

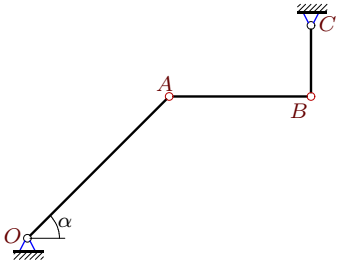
$\omega_{OAz} = 6$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 6$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.7. 6



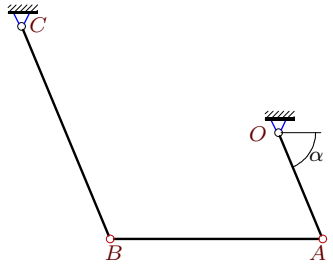
$\omega_{OAz} = -16$ рад/с, $OA||BC$,
$OA = 5$, $AB = 8$, $BC = 10$, $\operatorname{tg}\alpha = 4/3$.

Задача 24.8. 6



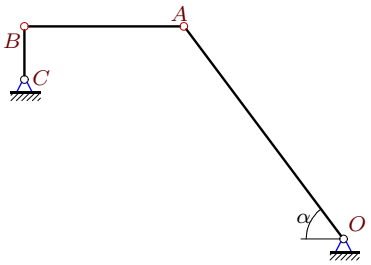
$\omega_{OAz} = 2$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 2$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.9. 6



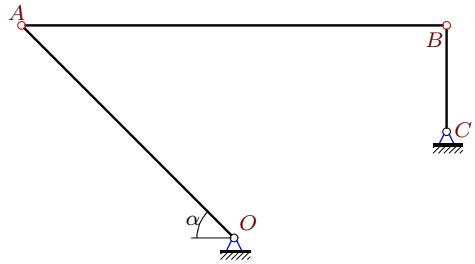
$\omega_{OAz} = -48$ рад/с, $OA||BC$,
$OA = 13$, $AB = 24$, $BC = 26$, $\operatorname{tg}\alpha = 12/5$.

Задача 24.10. 6



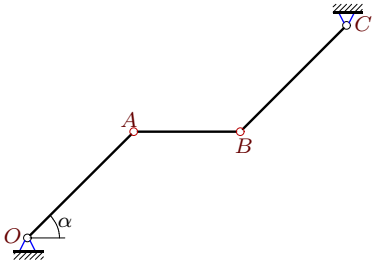
$\omega_{OAz} = -3$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 3$, $BC = 1$, $\operatorname{tg}\alpha = 4/3$.

Задача 24.11. 6



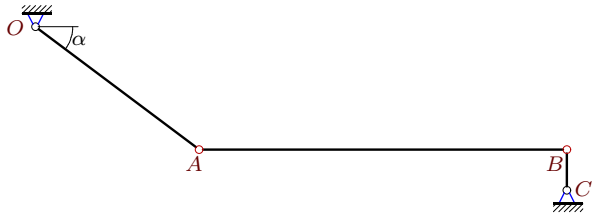
$\omega_{OAz} = 4$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 4$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.12. 6



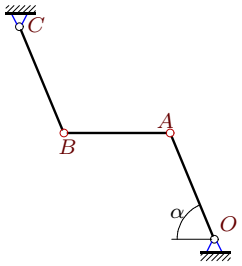
$\omega_{OAz} = -6$ рад/с, $OA||BC$,
$OA = 6\sqrt{2}$, $AB = 6$, $BC = 6\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.13. 6



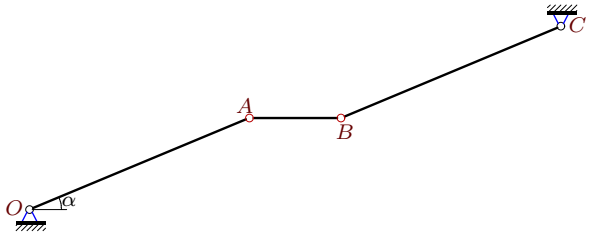
$\omega_{OAz} = 9$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 9$, $BC = 1$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.14. 6



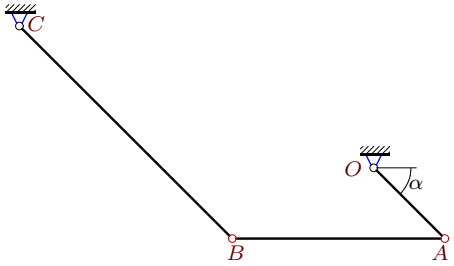
$\omega_{OAz} = 12$ рад/с, $OA||BC$,
$OA = 13$, $AB = 12$, $BC = 13$, $\operatorname{tg}\alpha = 12/5$.

Задача 24.15. 6



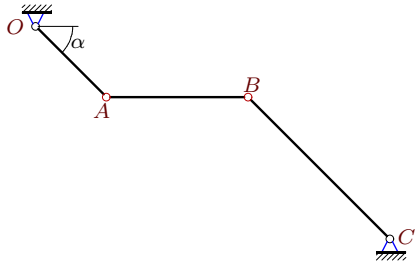
$\omega_{OAz} = -5$ рад/с, $OA||BC$,
$OA = 13$, $AB = 5$, $BC = 13$, $\operatorname{tg}\alpha = 5/12$.

Задача 24.16. 6



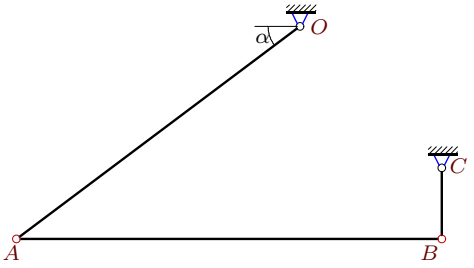
$\omega_{OAz} = -27$ рад/с, $OA||BC$,
$OA = 3\sqrt{2}$, $AB = 9$, $BC = 9\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.17. 6



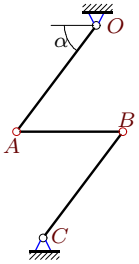
$\omega_{OAz} = -20$ рад/с, $OA||BC$,
$OA = 5\sqrt{2}$, $AB = 10$, $BC = 10\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.18. 6



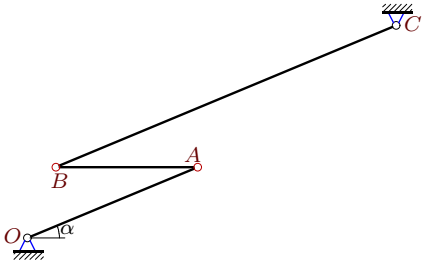
$\omega_{OAz} = 6$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 6$, $BC = 1$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.19. 6



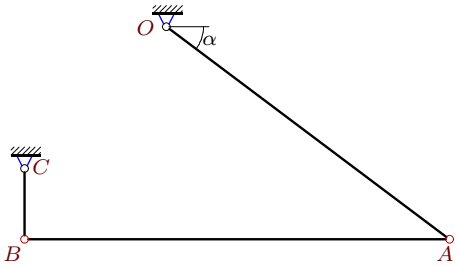
$\omega_{OAz} = -4$ рад/с, $OA||BC$,
$OA = 5$, $AB = 4$, $BC = 5$, $\operatorname{tg}\alpha = 4/3$.

Задача 24.20. 6



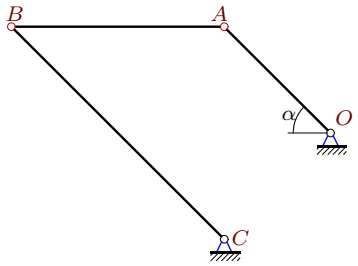
$\omega_{OAz} = 20$ рад/с, $OA||BC$,
$OA = 13$, $AB = 10$, $BC = 26$, $\operatorname{tg}\alpha = 5/12$.

Задача 24.21. 6



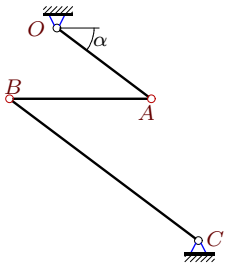
$\omega_{OAz} = -6$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 6$, $BC = 1$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.22. 6



$\omega_{OAz} = -16$ рад/с, $OA||BC$,
$OA = 4\sqrt{2}$, $AB = 8$, $BC = 8\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.23. 6

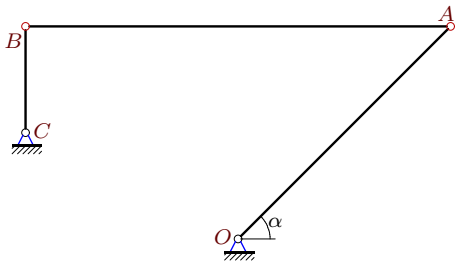


$\omega_{OAz} = 12$ рад/с, $OA||BC$,
$OA = 5$, $AB = 6$, $BC = 10$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.24. 6

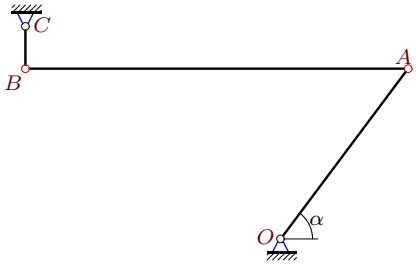
$\omega_{OAz} = -9$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 9$, $BC = 1$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.25. 6



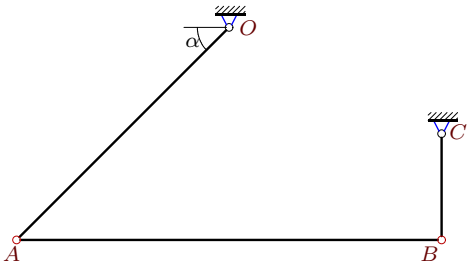
$\omega_{OAz} = -4$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 4$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.26. 6



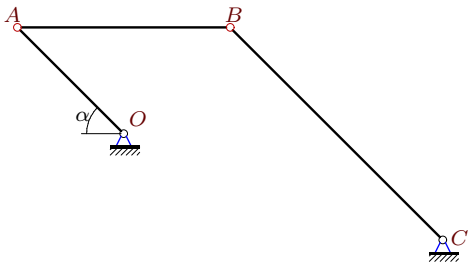
$\omega_{OAz} = -9$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 9$, $BC = 1$, $\operatorname{tg}\alpha = 4/3$.

Задача 24.27. 6



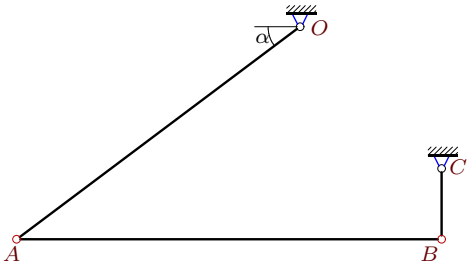
$\omega_{OAz} = 4$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 4$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.28. 6



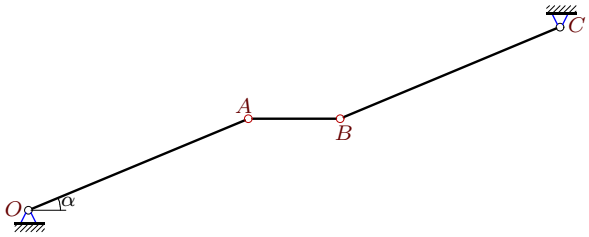
$\omega_{OAz} = 24$ рад/с, $OA||BC$,
$OA = 6\sqrt{2}$, $AB = 12$, $BC = 12\sqrt{2}$, $\alpha = \pi/4$.

Задача 24.29. 6



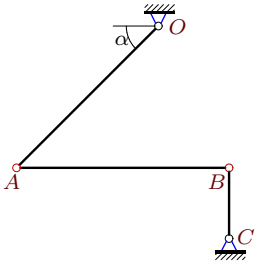
$\omega_{OAz} = 6$ рад/с, $AB \perp BC$,
$OA = 5$, $AB = 6$, $BC = 1$, $\operatorname{tg}\alpha = 3/4$.

Задача 24.30. 6



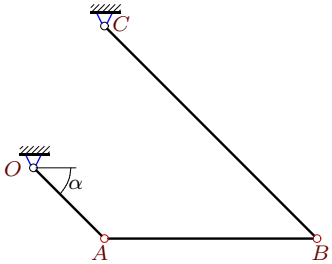
$\omega_{OAz} = -5$ рад/с, $OA||BC$,
$OA = 13$, $AB = 5$, $BC = 13$, $\operatorname{tg}\alpha = 5/12$.

Задача 24.31. 6



$\omega_{OAz} = 3$ рад/с, $AB \perp BC$,
$OA = 2\sqrt{2}$, $AB = 3$, $BC = 1$, $\alpha = \pi/4$.

Задача 24.32. 6



$\omega_{OAz} = 27$ рад/с, $OA||BC$,
$OA = 3\sqrt{2}$, $AB = 9$, $BC = 9\sqrt{2}$, $\alpha = \pi/4$.

24.6

Кинематический анализ механизма. Угловые ускорения

№	ω_{ABz}	ω_{BCz}	ε_{AB}	ε_{BC}
1	0	7	196	98
2	2	8	8	16
3	0	4	32	16
4	0	10	200	100
5	-3	-15	30	30
6	-2	-12	36	96
7	0	8	300	144
8	-2	-4	12	16
9	0	-24	676	240
10	3	-12	36	54
11	2	8	8	16
12	0	6	144	72
13	-4	-27	108	468
14	0	-12	338	120
15	0	5	338	120
16	0	-9	324	162
17	0	10	600	300
18	4	18	36	48
19	0	4	50	24
20	0	-10	2028	720
21	-4	-18	36	48
22	0	-8	128	64
23	0	-6	300	144
24	4	-27	54	468
25	-2	-8	8	16
26	-3	36	180	162
27	2	8	8	16
28	0	12	288	144
29	4	18	36	48
30	0	5	338	120
31	2	-6	18	6
32	0	9	324	162