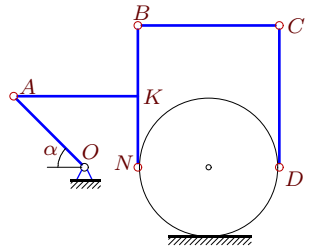
# Кинематический анализ плоского механизма

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.

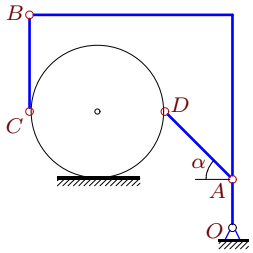
*Кирсанов М.Н.* **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.158.)

**Задача 26.1.** *48*



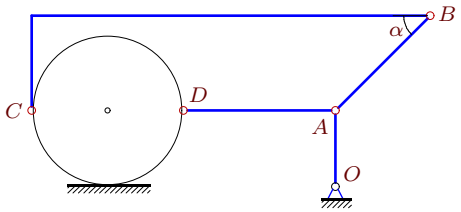

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
$AK = 7$, $BK = 4$, $KN = 4$, $CD = 8$, $\alpha = 45°$.

**Задача 26.2.** *48*



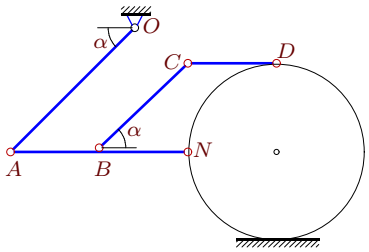

$\omega_{OA_z} = 42\frac{1}{c}$, $R = 7$, $OA = 5$,
$AD = 7\sqrt{2}$, $BC = 10$, $\alpha = 45°$.

**Задача 26.3.** *48*



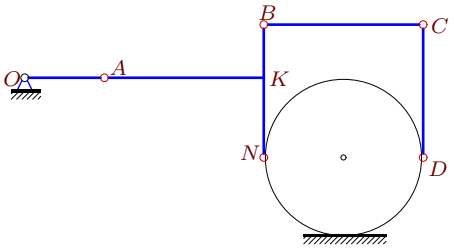

$\omega_{OA_z} = 4\frac{1}{c}$, $R = 4$, $OA = 4$,
$AB = 5\sqrt{2}$, $AD = 8$, $\alpha = 45°$.

**Задача 26.4.** *48*



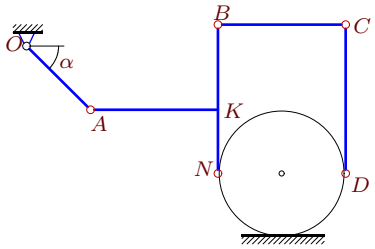

$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 7\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, $\alpha$=45°

**Задача 26.5.** *48*



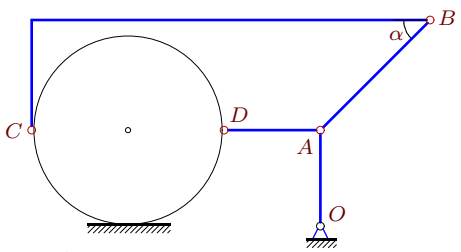

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 3$, $OA = 3$,
$AK = 6$, $BK = 2$, $KN = 3$, $CD = 5$.

**Задача 26.6.** *48*



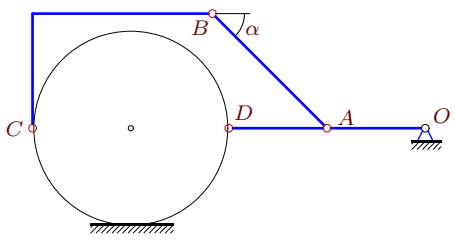

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 3$, $OA = 3\sqrt{2}$,
$AK = 6$, $BK = 4$, $KN = 3$, $CD = 7$, $\alpha = 45°$.

**Задача 26.7.** *48*



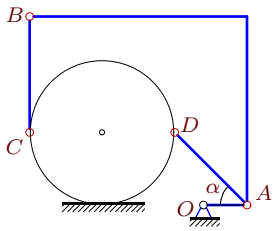

$\omega_{OA_z} = 3\frac{1}{c}$, $R = 7$, $OA = 7$,
$AB = 8\sqrt{2}$, $AD = 7$, $\alpha = 45°$.

**Задача 26.8.** *48*



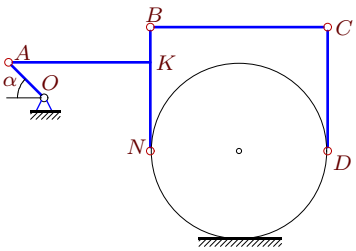

$\omega_{OA_z} = 3\frac{1}{c}$, $R = 6$, $OA = 6$,
$AB = 7\sqrt{2}$, $AD = 6$, $\alpha = 45°$.

**Задача 26.9.** 48



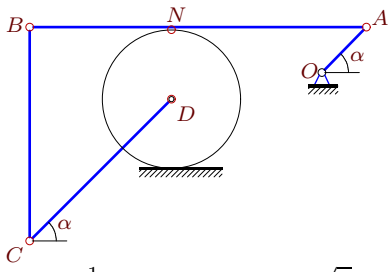

$\omega_{OA_z} = 10\frac{1}{c}$, $R = 5$, $OA = 3$,
$AD = 5\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

**Задача 26.10.** 48



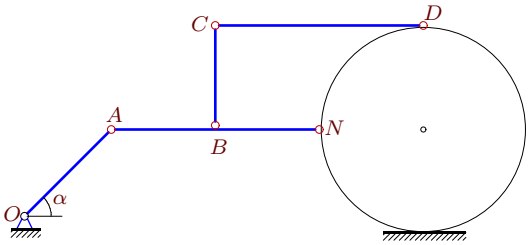

$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 2\sqrt{2}$,
$AK = 8$, $BK = 2$, $KN = 5$, $CD = 7$, $\alpha = 45°$.

**Задача 26.11.** 48



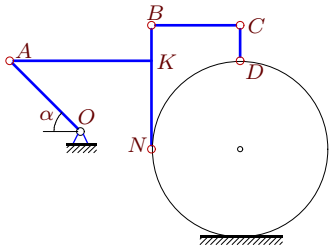

$\omega_{OA_z} = 176\frac{1}{c}$, $R = 8$, $OA = 5\sqrt{2}$,
$CD = 16\sqrt{2}$, $AN = 22$, $AB = 38$, $\alpha = 45°$.

**Задача 26.12.** 48



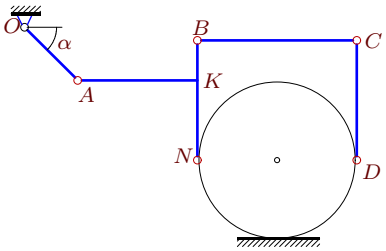

$\omega_{OA_z} = 6\frac{1}{c}$, $R = 6$, $OA = 5\sqrt{2}$,
$AB = 6$, $BN = BC = 6$, $CD = 12$, $\alpha$=45°

**Задача 26.13.** 48



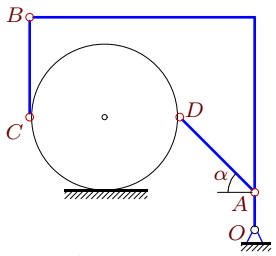

$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AK = 8$, $BK = 2$, $KN = 5$, $CD = 2$, $\alpha = 45°$.

**Задача 26.14.** 48



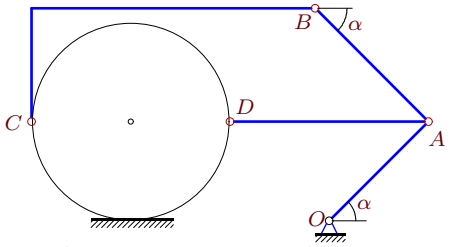

$\omega_{OA_z} = 3\frac{1}{c}$, $R = 6$, $OA = 4\sqrt{2}$,
$AK = 9$, $BK = 3$, $KN = 6$, $CD = 9$, $\alpha = 45°$.

**Задача 26.15.** 48



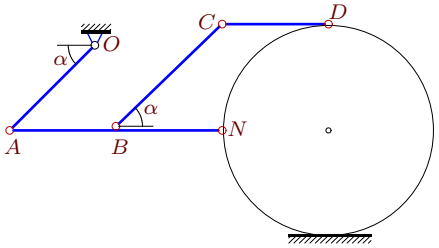

$\omega_{OA_z} = 12\frac{1}{c}$, $R = 6$, $OA = 3$,
$AD = 6\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

**Задача 26.16.** 48



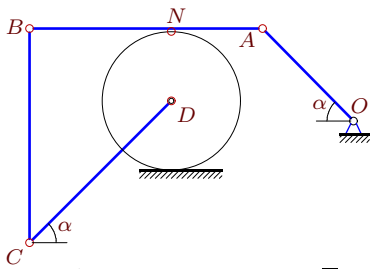

$\omega_{OA_z} = 2\frac{1}{c}$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 8\sqrt{2}$, $AD = 14$, $\alpha = 45°$.

**Задача 26.17.** 48



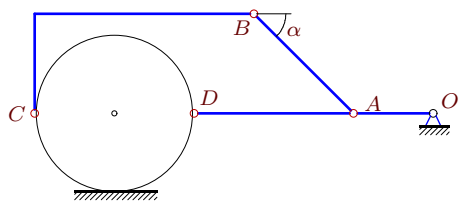

$\omega_{OA_z} = 5\frac{1}{c}$, $R = 5$, $OA = 4\sqrt{2}$,
$AB = 5$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, $\alpha$=45°

**Задача 26.18.** 48



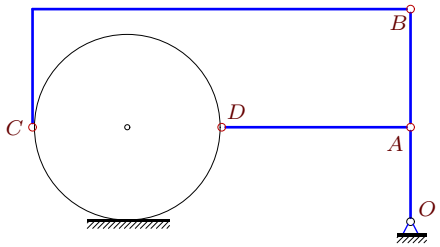

$\omega_{OA_z} = 42\frac{1}{c}$, $R = 7$, $OA = 9\sqrt{2}$,
$CD = 14\sqrt{2}$, $AN = 9$, $AB = 23$, $\alpha = 45°$.

**Задача 26.19.** 48



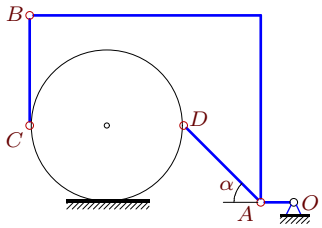

$\omega_{OA_z} = 4\frac{1}{c}$, $R = 4$, $OA = 4$,
$AB = 5\sqrt{2}$, $AD = 8$, $\alpha = 45°$.

**Задача 26.20.** 48



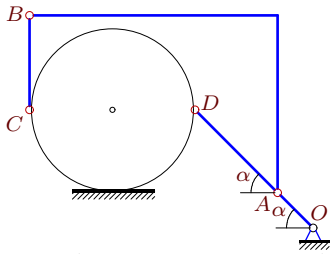

$\omega_{OA_z} = 4\frac{1}{c}$, $R = 4$, $OA = 4$,
$AB = 5$, $AD = 8$.

**Задача 26.21.** 48



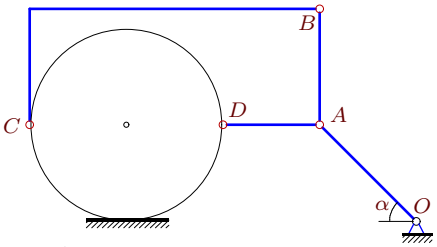

$\omega_{OA_z} = 14\frac{1}{c}$, $R = 7$, $OA = 3$,
$AD = 7\sqrt{2}$, $BC = 10$, $\alpha = 45°$.

**Задача 26.22.** 48



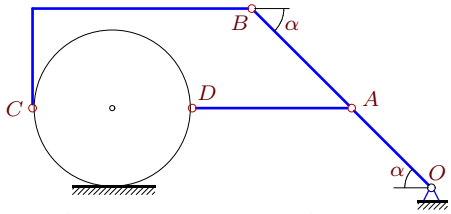

$\omega_{OA_z} = 28\frac{1}{c}$, $R = 7$, $OA = 3\sqrt{2}$,
$AD = 7\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

**Задача 26.23.** 48



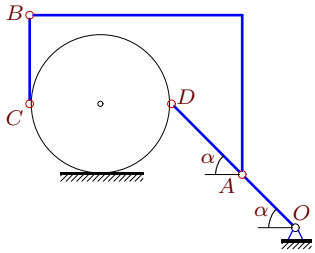

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 5$, $OA = 5\sqrt{2}$,
$AB = 6$, $AD = 5$, $\alpha = 45°$.

**Задача 26.24.** 48



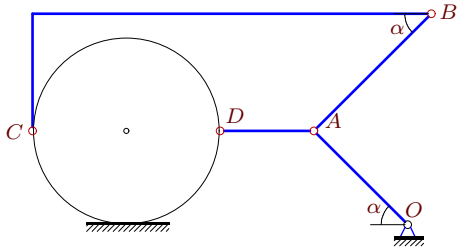

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
$AB = 5\sqrt{2}$, $AD = 8$, $\alpha = 45°$.

**Задача 26.25.** 48



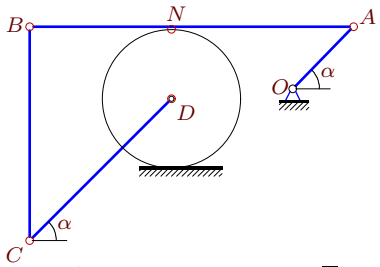

$\omega_{OA_z} = 20\frac{1}{c}$, $R = 4$, $OA = 3\sqrt{2}$,
$AD = 4\sqrt{2}$, $BC = 5$, $\alpha = 45°$.

**Задача 26.26.** 48



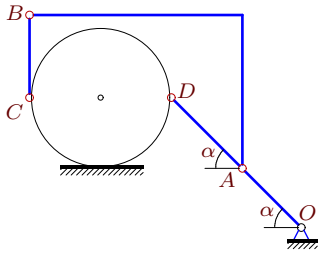

$\omega_{OA_z} = 1\frac{1}{c}$, $R = 4$, $OA = 4\sqrt{2}$,
$AB = 5\sqrt{2}$, $AD = 4$, $\alpha = 45°$.

**Задача 26.27.** 48



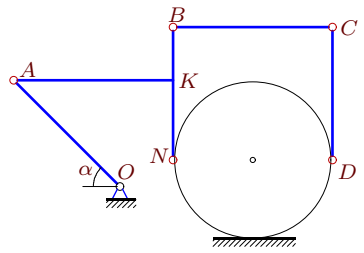

$\omega_{OA_z} = 63\frac{1}{c}$, $R = 7$, $OA = 6\sqrt{2}$,
$CD = 14\sqrt{2}$, $AN = 18$, $AB = 32$, $\alpha = 45°$.

**Задача 26.28.** 48



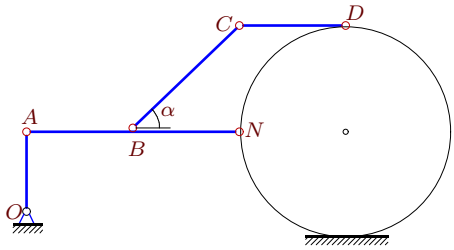

$\omega_{OA_z} = 126\frac{1}{c}$, $R = 6$, $OA = 5\sqrt{2}$,
$AD = 6\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

**Задача 26.29.** 48



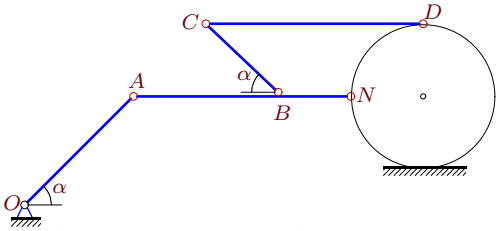

$\omega_{OA_z} = 3\frac{1}{c}$, $R = 3$, $OA = 4\sqrt{2}$,
$AK = 6$, $BK = 2$, $KN = 3$, $CD = 5$, $\alpha = 45°$.

**Задача 26.30.** 48



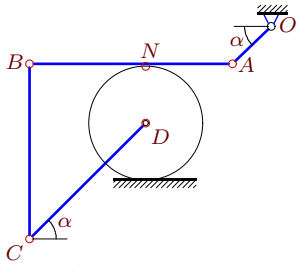

$\omega_{OA_z} = 8\frac{1}{c}$, $R = 4$, $OA = 3$,
$AB = 4$, $BN = 4$, $BC = 4\sqrt{2}$, $CD = 4$, $\alpha$=45°

**Задача 26.31.** 48



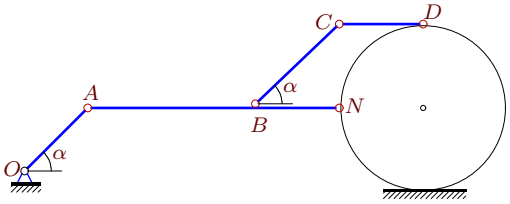

$\omega_{OA_z} = 6\frac{1}{c}$, $R = 4$, $OA = 6\sqrt{2}$,
$AB = 8$, $BN = 4$, $BC = 4\sqrt{2}$, $CD = 12$, $\alpha$=45°

**Задача 26.32.** 48



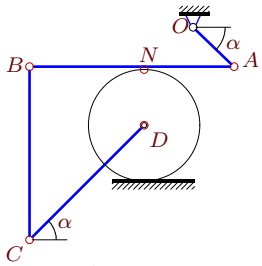

$\omega_{OA_z} = 27\frac{1}{c}$, $R = 6$, $OA = 4\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 9$, $AB = 21$, $\alpha = 45°$.

**Задача 26.33.** 48




$\omega_{OA_z} = 4\frac{1}{c}$, $R = 4$, $OA = 3\sqrt{2}$,
$AB = 8$, $BN = 4$, $BC = 4\sqrt{2}$, $CD = 4$, $\alpha$=45°

**Задача 26.34.** 48




$\omega_{OA_z} = 462\frac{1}{c}$, $R = 7$, $OA = 5\sqrt{2}$,
$CD = 14\sqrt{2}$, $AN = 11$, $AB = 25$, $\alpha = 45°$.

**26.48**

# Кинематический анализ плоского механизма

| № | $\omega_{AB_z}$ | $\omega_{BC_z}$ | $\omega_{CD_z}$ | $\omega_{DA_z}$ | $\omega_{\text{диск}_z}$ |
|---|---|---|---|---|---|
| 1 | 0 | 1 | 0 | – | 1 |
| 2 | 5 | 19 | – | -15 | 15 |
| 3 | 1 | 1 | – | -2 | 4 |
| 4 | 7 | -7 | 7 | – | -7 |
| 5 | -1 | 1 | -1 | – | 1 |
| 6 | 0 | -1 | 0 | – | -1 |
| 7 | 1 | 1 | – | -3 | 3 |
| 8 | -1 | -1 | – | -3 | 0 |
| 9 | 3 | 3 | – | 3 | 3 |
| 10 | 0 | 2 | 0 | – | 2 |
| 11 | 40 | 45 | 40 | – | 55 |
| 12 | -5 | 5 | 0 | – | 5 |
| 13 | 0 | 4 | -10 | – | 4 |
| 14 | 0 | -2 | 0 | – | -2 |
| 15 | 1 | 4 | – | -3 | 3 |
| 16 | 1 | 1 | – | 0 | 2 |
| 17 | 4 | -4 | 4 | – | -4 |
| 18 | -42 | -19 | -42 | – | 27 |
| 19 | -1 | -1 | – | -2 | 0 |
| 20 | 1 | 1 | – | -2 | 4 |
| 21 | -3 | -3 | – | -3 | -3 |
| 22 | -4 | 3 | – | -12 | 0 |
| 23 | 0 | 0 | – | -2 | 1 |
| 24 | 0 | 0 | – | -1 | 1 |
| 25 | -5 | 3 | – | -15 | 0 |
| 26 | 0 | 0 | – | -2 | 1 |
| 27 | 21 | 23 | 21 | – | 27 |
| 28 | -35 | 25 | – | -105 | 0 |
| 29 | 0 | 4 | 0 | – | 4 |
| 30 | -3 | 6 | -3 | – | 6 |
| 31 | -6 | 9 | 4 | – | 9 |
| 32 | -12 | -11 | -12 | – | -9 |
| 33 | -2 | 3 | -2 | – | 3 |
| 34 | 210 | 85 | 210 | – | -165 |