

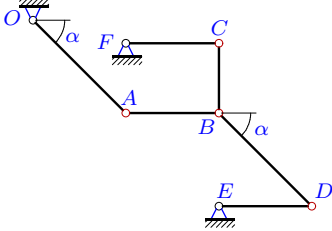
## Механизм с двумя степенями свободы

В указанном положении механизма заданы угловые скорости двух его звеньев ( $\text{с}^{-1}$ ). Длины звеньев даны в сантиметрах,  $\alpha = 45^\circ$ . Стержни, направление которых не указано, считать горизонтальными или вертикальными. 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 К-25.25.

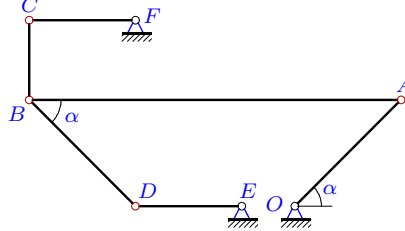
47



$$\omega_{OA_z} = -3, \omega_{CF_z} = -9, AB = 4, BC = 3, DE = 4, CF = 4, OA = BD = 4\sqrt{2}.$$

### Задача К-25.26.

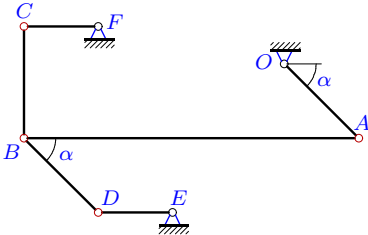
47



$$\omega_{OA_z} = -21, \omega_{DE_z} = -63, AB = 14, BC = 3, DE = 4, CF = 4, OA = BD = 4\sqrt{2}.$$

### Задача К-25.27.

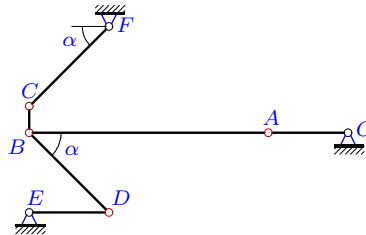
47



$$\omega_{OA_z} = -9, \omega_{CF_z} = -27, AB = 9, BC = 3, DE = 2, CF = 2, OA = BD = 2\sqrt{2}.$$

### Задача К-25.28.

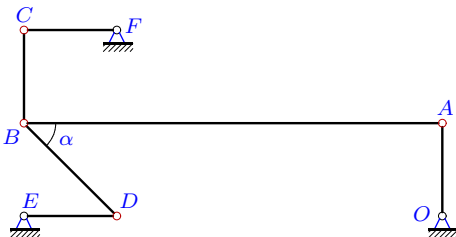
47



$$\omega_{OA_z} = -1, \omega_{DE_z} = -2, AB = 9, BC = 1, DE = 3, OA = 3, CF = BD = 3\sqrt{2}.$$

### Задача К-25.29.

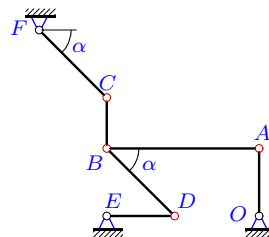
47



$$\omega_{OA_z} = 3, \omega_{CF_z} = -9, AB = 9, BC = 2, DE = 2, OA = 2, CF = 2, BD = 2\sqrt{2}.$$

### Задача К-25.30.

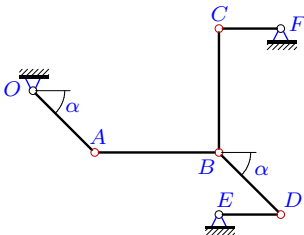
47



$$\omega_{OA_z} = 9, \omega_{CF_z} = 18, AB = 9, BC = 3, DE = 4, OA = 4, CF = BD = 4\sqrt{2}.$$

### Задача К-25.31.

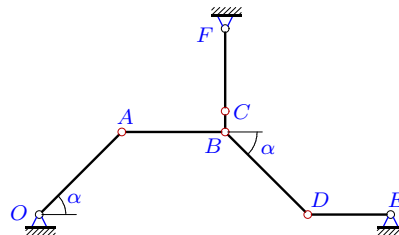
47



$$\omega_{CF_z} = 6, \omega_{DE_z} = 2, AB = BC = 4, DE = 2, CF = 2, OA = BD = 2\sqrt{2}.$$

### Задача К-25.32.

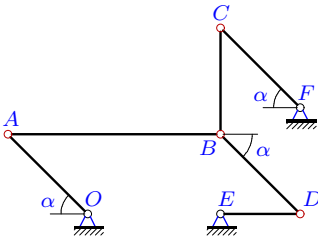
47



$$\omega_{CF_z} = 10, \omega_{DE_z} = -5, AB = 5, BC = 1, DE = 4, CF = 4, OA = BD = 4\sqrt{2}.$$

**Задача К-25.33.**

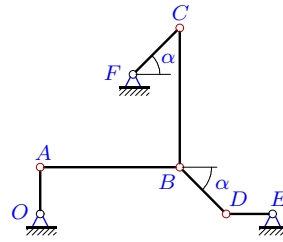
47



$\omega_{OA_z} = -8, \omega_{CF_z} = 16, AB = 8, BC = 4,$   
 $DE = 3, OA = CF = BD = 3\sqrt{2}.$

**Задача К-25.34.**

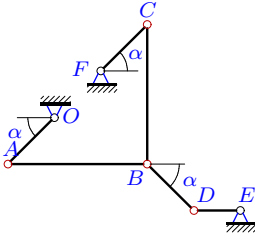
47



$\omega_{OA_z} = 3, \omega_{CF_z} = 9, AB = BC = 6, DE = 2,$   
 $OA = 2, CF = BD = 2\sqrt{2}.$

**Задача К-25.35.**

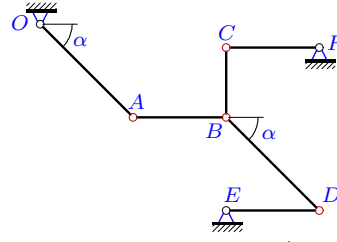
47



$\omega_{OA_z} = 3, \omega_{CF_z} = -9, AB = BC = 6, DE = 2,$   
 $OA = CF = BD = 2\sqrt{2}.$

**Задача К-25.36.**

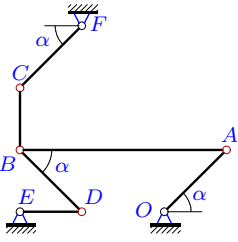
47



$\omega_{CF_z} = 2, \omega_{DE_z} = 1, AB = 4, BC = 3,$   
 $DE = 4, CF = 4, OA = BD = 4\sqrt{2}.$

**Задача К-25.37.**

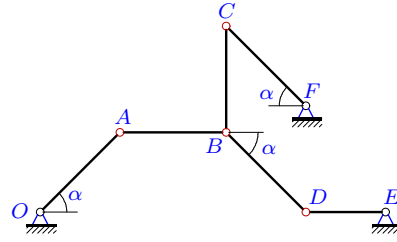
47



$\omega_{CF_z} = -20, \omega_{DE_z} = 10, AB = 10, BC = 3,$   
 $DE = 3, OA = CF = BD = 3\sqrt{2}.$

**Задача К-25.38.**

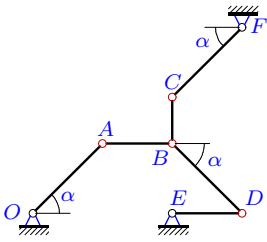
47



$\omega_{OA_z} = 2, \omega_{DE_z} = 4, AB = BC = 4, DE = 3,$   
 $OA = CF = BD = 3\sqrt{2}.$

**Задача К-25.39.**

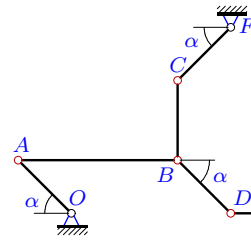
47



$\omega_{CF_z} = \omega_{DE_z} = -2, AB = 3, BC = 2,$   
 $DE = 3, OA = CF = BD = 3\sqrt{2}.$

**Задача К-25.40.**

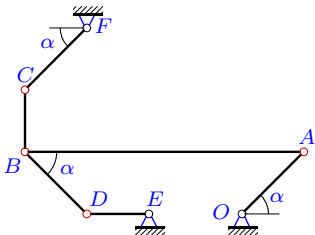
47



$\omega_{OA_z} = \omega_{DE_z} = 3, AB = 6, BC = 3,$   
 $DE = 2, OA = CF = BD = 2\sqrt{2}.$

**Задача К-25.41.**

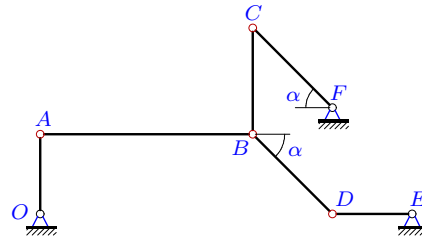
47



$\omega_{OA_z} = -9, \omega_{DE_z} = 27, AB = 9, BC = 2, DE = 2, OA = CF = BD = 2\sqrt{2}.$

**Задача К-25.42.**

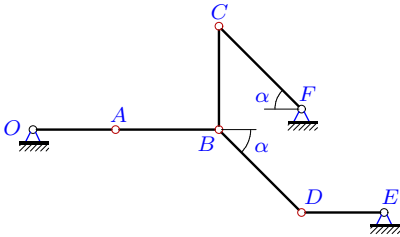
47



$\omega_{OA_z} = 4, \omega_{DE_z} = -12, AB = 8, BC = 4, DE = 3, OA = 3, CF = BD = 3\sqrt{2}.$

**Задача К-25.43.**

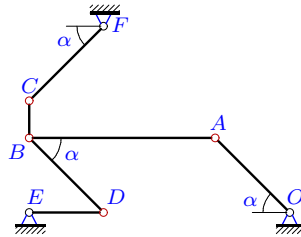
47



$\omega_{OA_z} = 5, \omega_{DE_z} = -5, AB = BC = 5, DE = 4, OA = 4, CF = BD = 4\sqrt{2}.$

**Задача К-25.44.**

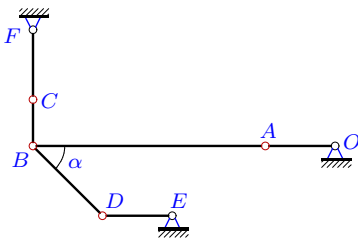
47



$\omega_{CF_z} = -5, \omega_{DE_z} = 5, AB = 10, BC = 2, DE = 4, OA = CF = BD = 4\sqrt{2}.$

**Задача К-25.45.**

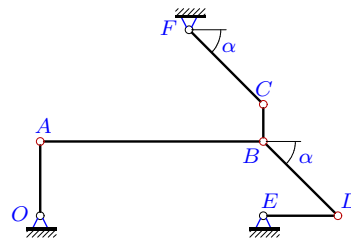
47



$\omega_{OA_z} = -10, \omega_{CF_z} = 20, AB = 10, BC = 2, DE = 3, OA = 3, CF = 3, BD = 3\sqrt{2}.$

**Задача К-25.46.**

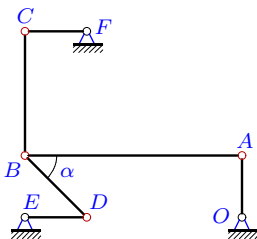
47



$\omega_{OA_z} = -3, \omega_{DE_z} = -6, AB = 6, BC = 1, DE = 2, OA = 2, CF = BD = 2\sqrt{2}.$

**Задача К-25.47.**

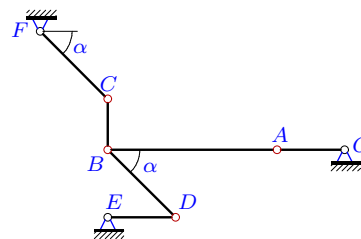
47



$\omega_{OA_z} = 14, \omega_{CF_z} = -28, AB = 7, BC = 4, DE = 2, OA = 2, CF = 2, BD = 2\sqrt{2}.$

**Задача К-25.48.**

47



$\omega_{OA_z} = 5, \omega_{DE_z} = 15, AB = 10, BC = 3, DE = 4, OA = 4, CF = BD = 4\sqrt{2}.$

**К-25 Ответы.****Механизм с двумя степенями свободы**

30.05.2013

| №  | $\omega_{OA}$ | $\omega_{AB}$ | $\omega_{BC}$ | $\omega_{FC}$ | $\omega_{DB}$ | $\omega_{DE}$ |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| 25 | —             | —6            | —4            | —             | 3             | —6            |
| 26 | —             | —30           | 28            | —84           | —21           | —             |
| 27 | —             | —8            | —6            | —             | 9             | —36           |
| 28 | —             | 1             | —6            | 2             | 0             | —             |
| 29 | —             | —2            | —3            | —             | 3             | 12            |
| 30 | —             | —8            | —36           | —             | 9             | 27            |
| 31 | —8            | 1             | —4            | —             | 8             | —             |
| 32 | 5             | —4            | —60           | —             | 5             | —             |
| 33 | —             | —9            | 18            | —             | —8            | —24           |
| 34 | —             | 3             | 2             | —             | 3             | —12           |
| 35 | —             | —2            | —2            | —             | —3            | 12            |
| 36 | —3            | 1             | —4            | —             | 3             | —             |
| 37 | —10           | —9            | 30            | —             | —10           | —             |
| 38 | —             | —6            | 3             | 6             | 2             | —             |
| 39 | —4            | 6             | 9             | —             | —4            | —             |
| 40 | —             | —1            | —6            | 6             | 3             | —             |
| 41 | —             | 2             | —9            | 18            | —9            | —             |
| 42 | —             | 3             | —9            | —8            | 4             | —             |
| 43 | —             | 0             | —4            | —5            | 0             | —             |
| 44 | 0             | —2            | 10            | —             | 0             | —             |
| 45 | —             | 3             | —30           | —             | 0             | 0             |
| 46 | —             | —1            | 12            | —3            | —3            | —             |
| 47 | —             | —8            | —7            | —             | 14            | 42            |
| 48 | —             | —8            | —20           | 15            | 0             | —             |

К-25 файл о25k47А