

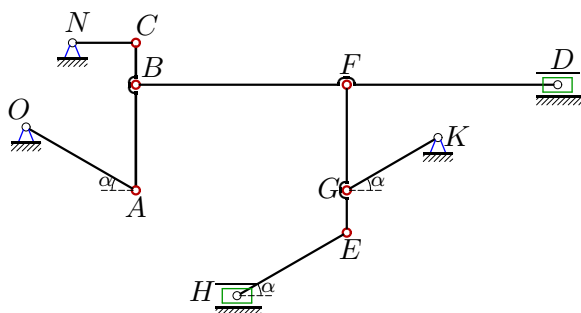
## Кинематический анализ механизма (7 звеньев)

Плоский многозвенный механизм с одной степенью свободы приводится в движение кривошипом, который вращается против часовой стрелки с постоянной угловой скоростью. Найти скорости всех шарниров. Размеры даны в сантиметрах.

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

### Задача 9.1.

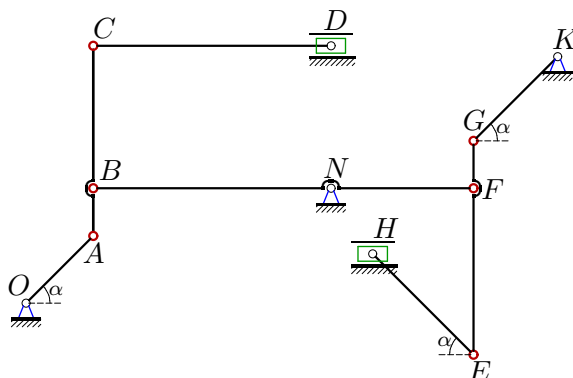
Анисимов Марат Андреевич



$$\begin{aligned} \omega_{OA} &= 1 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 25, BC = 10, \\ BF &= 50, FD = 50, \\ NC &= 15, EH = 30, \\ FE &= 35, FG = 25, \\ OA &= 30, KG = 25. \end{aligned}$$

### Задача 9.2.

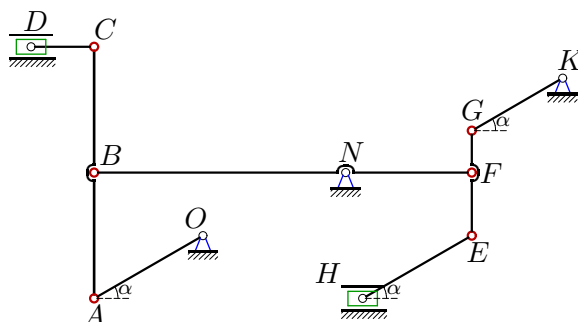
Бабушкин Семен Алексеевич



$$\begin{aligned} \omega_{OA} &= 2 \text{ рад/с}, \alpha = 45^\circ, \\ AB &= 10, BC = 30, \\ NB &= 50, NF = 30, \\ CD &= 50, EH = 30, \\ FE &= 35, FG = 10, \\ OA &= 20, KG = 25. \end{aligned}$$

### Задача 9.3.

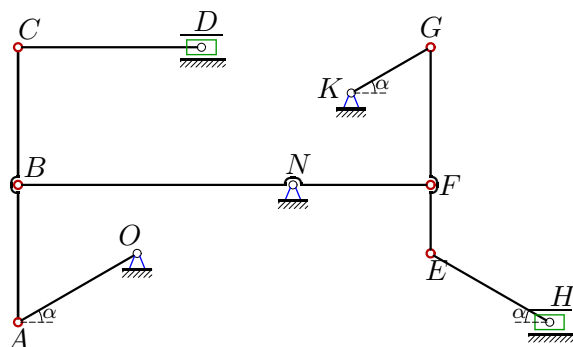
Багрянцев Роман Андреевич



$$\begin{aligned} \omega_{KG} &= 2 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 30, BC = 30, \\ NB &= 60, NF = 30, \\ CD &= 15, EH = 30, \\ FE &= 15, FG = 10, \\ OA &= 30, KG = 25. \end{aligned}$$

Задача 9.4.

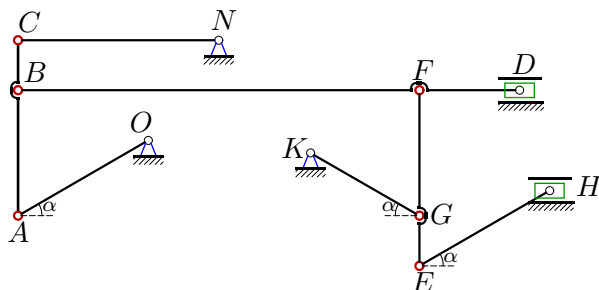
Быткулеску Давид



$\omega_{KG} = 3 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 30, BC = 30,$   
 $NB = 60, NF = 30,$   
 $CD = 40, EH = 30,$   
 $FE = 15, FG = 30,$   
 $OA = 30, KG = 20.$

Задача 9.5.

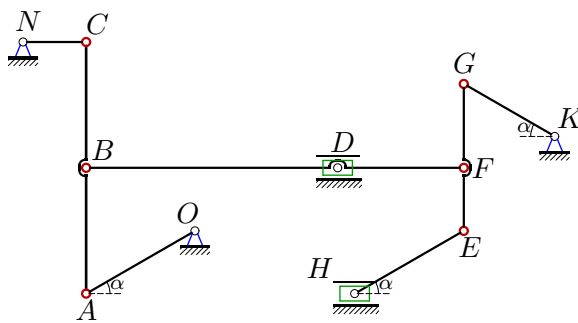
Грачева Татьяна Юрьевна



$\omega_{NC} = 1 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 25, BC = 10,$   
 $BF = 80, FD = 20,$   
 $NC = 40, EH = 30,$   
 $FE = 35, FG = 25,$   
 $OA = 30, KG = 25.$

Задача 9.6.

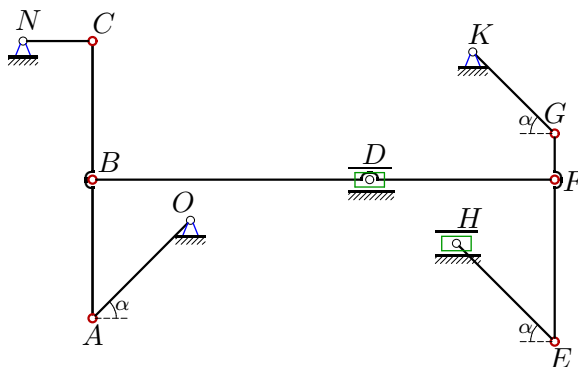
Дебушевский Руслан Игоревич



$\omega_{NC} = 2 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 30, BC = 30,$   
 $DB = 60, DF = 30,$   
 $NC = 15, EH = 30,$   
 $FE = 15, FG = 20,$   
 $OA = 30, KG = 25.$

Задача 9.7.

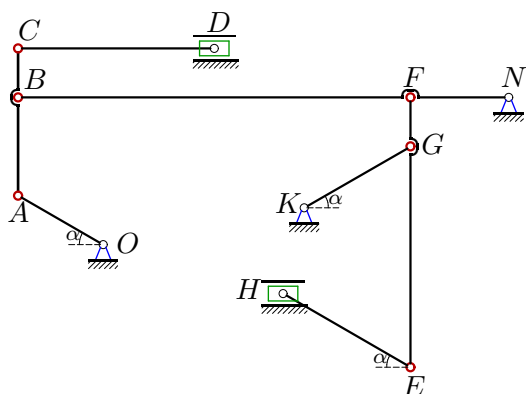
Зайнутдинов Эдуард Ильясович



$\omega_{OA} = 1 \text{ рад/с}, \alpha = 45^\circ,$   
 $AB = 30, BC = 30,$   
 $DB = 60, DF = 40,$   
 $NC = 15, EH = 30,$   
 $FE = 35, FG = 10,$   
 $OA = 30, KG = 25.$

**Задача 9.8.**

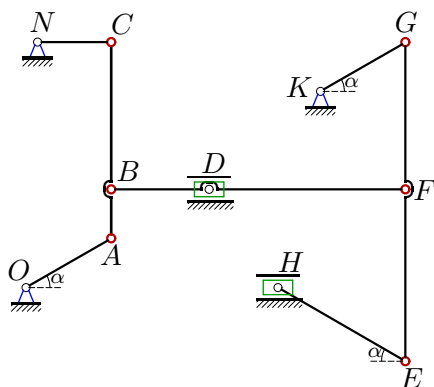
*Захаров Александр Сергеевич*



$\omega_{KG} = 4$  рад/с,  $\alpha = 30^\circ$ ,  
 $AB = 20$ ,  $BC = 10$ ,  
 $BF = 80$ ,  $NF = 20$ ,  
 $CD = 40$ ,  $EH = 30$ ,  
 $FG = 10$ ,  $GE = 45$ ,  
 $OA = 20$ ,  $KG = 25$ .

**Задача 9.9.**

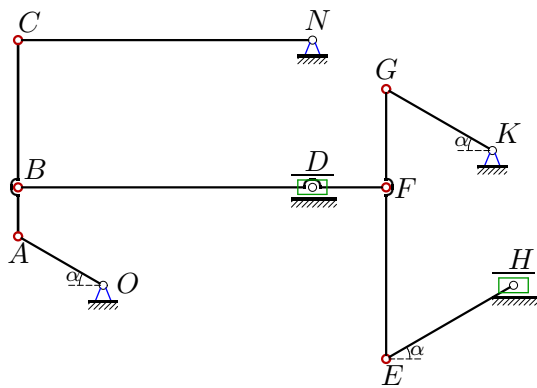
*Кашпур Марк Александрович*



$\omega_{NC} = 2$  рад/с,  $\alpha = 30^\circ$ ,  
 $AB = 10$ ,  $BC = 30$ ,  
 $DB = 20$ ,  $DF = 40$ ,  
 $NC = 15$ ,  $EH = 30$ ,  
 $FE = 35$ ,  $FG = 30$ ,  
 $OA = 20$ ,  $KG = 20$ .

**Задача 9.10.**

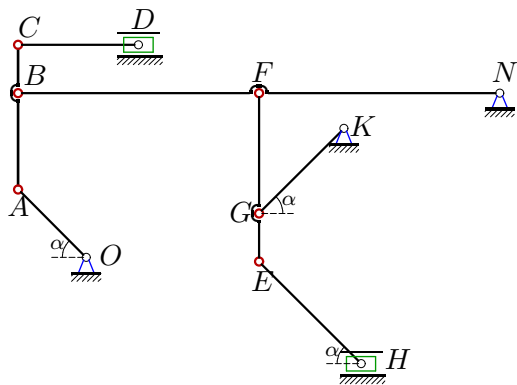
*Кюмбаев Темирлан*



$\omega_{NC} = 1$  рад/с,  $\alpha = 30^\circ$ ,  
 $AB = 10$ ,  $BC = 30$ ,  
 $DB = 60$ ,  $DF = 15$ ,  
 $NC = 60$ ,  $EH = 30$ ,  
 $FE = 35$ ,  $FG = 20$ ,  
 $OA = 20$ ,  $KG = 25$ .

**Задача 9.11.**

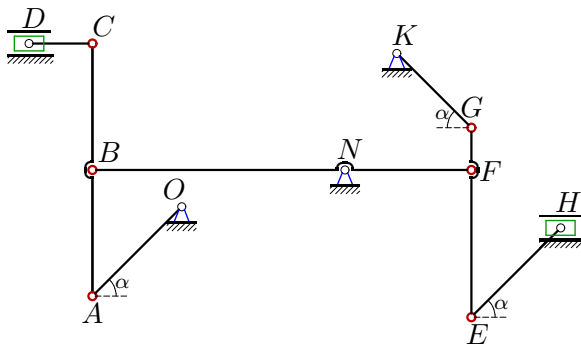
*Коптяев Андрей Алексеевич*



$\omega_{KG} = 2$  рад/с,  $\alpha = 45^\circ$ ,  
 $AB = 20$ ,  $BC = 10$ ,  
 $BF = 50$ ,  $NF = 50$ ,  
 $CD = 25$ ,  $EH = 30$ ,  
 $FG = 25$ ,  $GE = 10$ ,  
 $OA = 20$ ,  $KG = 25$ .

Задача 9.12.

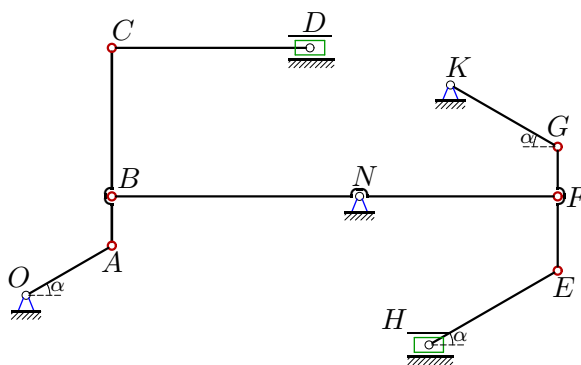
Кречков Николай Александрович



$$\begin{aligned} \omega_{KG} &= 3 \text{ рад/с}, \alpha = 45^\circ, \\ AB &= 30, BC = 30, \\ NB &= 60, NF = 30, \\ CD &= 15, EH = 30, \\ FE &= 35, FG = 10, \\ OA &= 30, KG = 25. \end{aligned}$$

Задача 9.13.

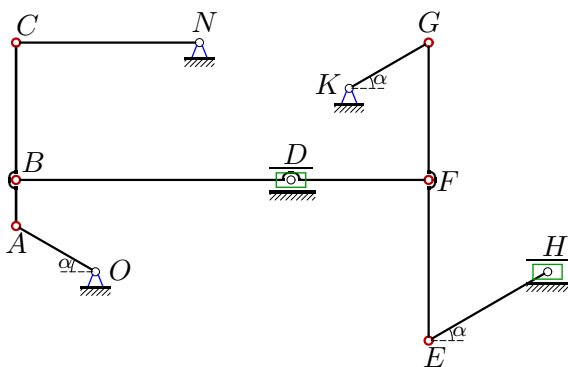
Опря Вячеслав Игоревич



$$\begin{aligned} \omega_{BF} &= 2 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 10, BC = 30, \\ NB &= 50, NF = 40, \\ CD &= 40, EH = 30, \\ FE &= 15, FG = 10, \\ OA &= 20, KG = 25. \end{aligned}$$

Задача 9.14.

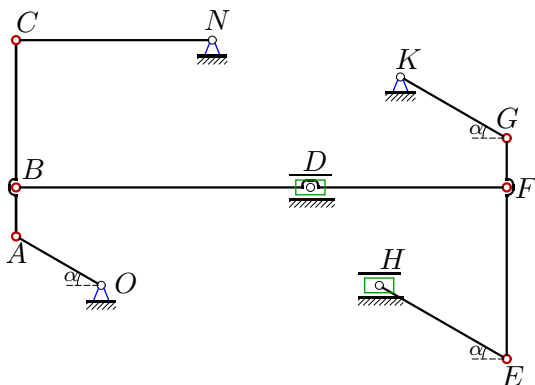
Остахов Захар Дмитриевич



$$\begin{aligned} \omega_{NC} &= 1 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 10, BC = 30, \\ DB &= 60, DF = 30, \\ NC &= 40, EH = 30, \\ FE &= 35, FG = 30, \\ OA &= 20, KG = 20. \end{aligned}$$

Задача 9.15.

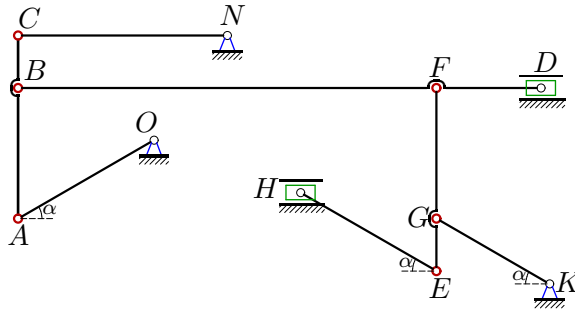
Примаченко Илья Алексеевич



$$\begin{aligned} \omega_{OA} &= 2 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 10, BC = 30, \\ DB &= 60, DF = 40, \\ NC &= 40, EH = 30, \\ FE &= 35, FG = 10, \\ OA &= 20, KG = 25. \end{aligned}$$

Задача 9.16.

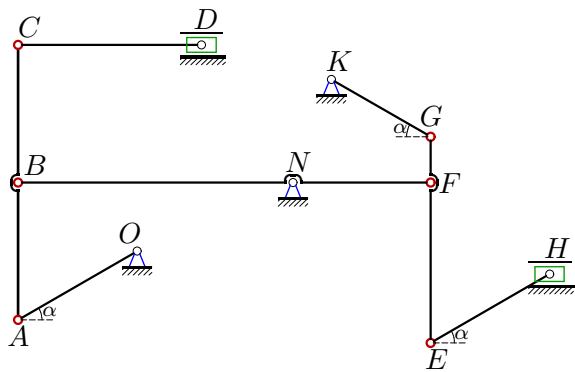
Старостин Павел Игоревич



$\omega_{OA} = 4 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 25, BC = 10,$   
 $BF = 80, FD = 20,$   
 $NC = 40, EH = 30,$   
 $FE = 35, FG = 25,$   
 $OA = 30, KG = 25.$

Задача 9.17.

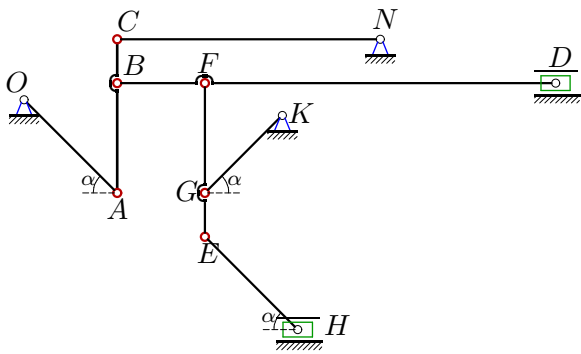
Татауров Вадим Александрович



$\omega_{BF} = 1 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 30, BC = 30,$   
 $NB = 60, NF = 30,$   
 $CD = 40, EH = 30,$   
 $FE = 35, FG = 10,$   
 $OA = 30, KG = 25.$

Задача 9.18.

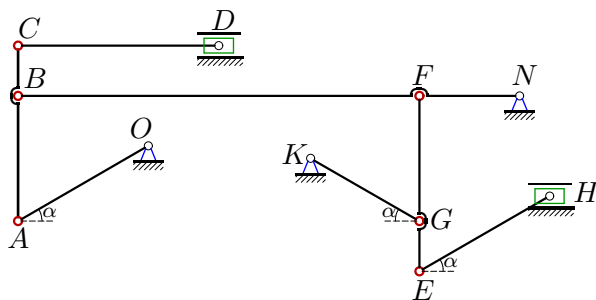
Тогтохбаатар Батдорж



$\omega_{NC} = 2 \text{ рад/с}, \alpha = 45^\circ,$   
 $AB = 25, BC = 10,$   
 $BF = 20, FD = 80,$   
 $NC = 60, EH = 30,$   
 $FE = 35, FG = 25,$   
 $OA = 30, KG = 25.$

Задача 9.19.

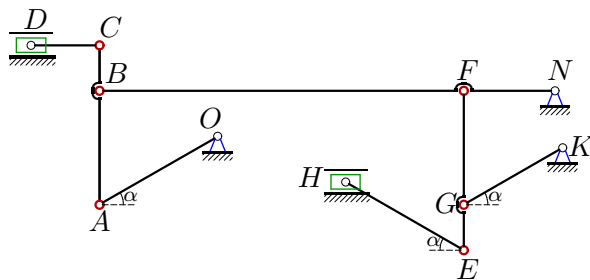
Цепалин Павел Константинович



$\omega_{KG} = 4 \text{ рад/с}, \alpha = 30^\circ,$   
 $AB = 25, BC = 10,$   
 $BF = 80, NF = 20,$   
 $CD = 40, EH = 30,$   
 $FG = 25, GE = 10,$   
 $OA = 30, KG = 25.$

Задача 9.20.

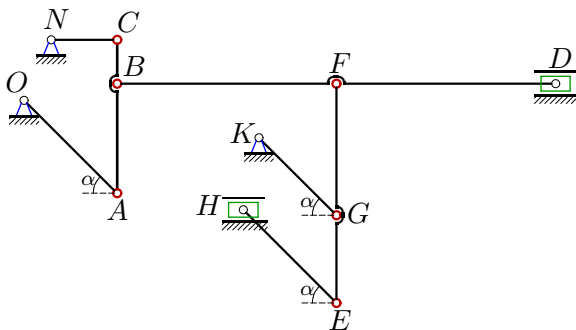
Шерстнев Сергей Геннадьевич



$$\begin{aligned} \omega_{KG} &= 4 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 25, BC = 10, \\ BF &= 80, NF = 20, \\ CD &= 15, EH = 30, \\ FG &= 25, GE = 10, \\ OA &= 30, KG = 25. \end{aligned}$$

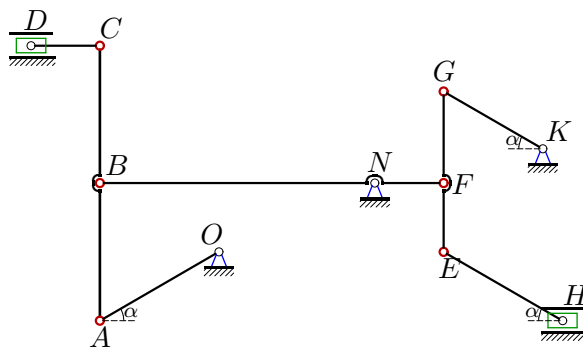
Задача 9.21.

Юань Хайтян



$$\begin{aligned} \omega_{NC} &= 3 \text{ рад/с}, \alpha = 45^\circ, \\ AB &= 25, BC = 10, \\ BF &= 50, FD = 50, \\ NC &= 15, EH = 30, \\ FE &= 50, FG = 30, \\ OA &= 30, KG = 25. \end{aligned}$$

Задача 9.22.



$$\begin{aligned} \omega_{BF} &= 4 \text{ рад/с}, \alpha = 30^\circ, \\ AB &= 30, BC = 30, \\ NB &= 60, NF = 15, \\ CD &= 15, EH = 30, \\ FE &= 15, FG = 20, \\ OA &= 30, KG = 25. \end{aligned}$$