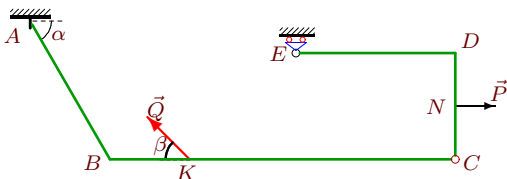


Составная конструкция

Определить реакции опор конструкции (в кН), состоящей из двух тел.

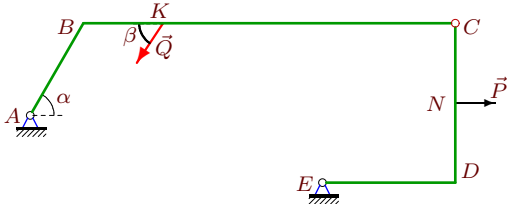
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.- М.:ФИЗМАТЛИТ, 2002.- 384 с. (с.67.)

Задача 7.1.



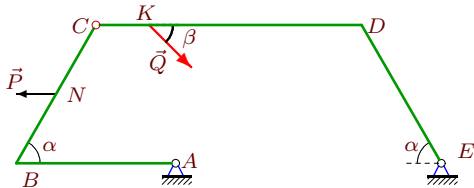
$P = 7$ кН, $Q = 1$ кН, $\alpha = 60^\circ$, $\beta = 45^\circ$,
 $AB = 6$ м, $BC = 13$ м, $CD = 4$ м,
 $DE = 6$ м, $CN = 2$ м, $BK = 3$ м.

Задача 7.3.



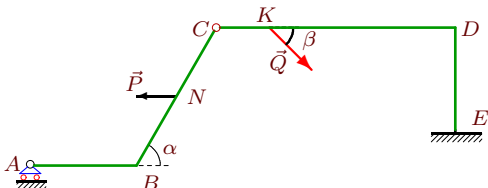
$P = 6$ кН, $Q = 2$ кН, $\alpha = 60^\circ$, $\beta = 60^\circ$,
 $AB = 4$ м, $BC = 14$ м, $CD = 6$ м,
 $DE = 5$ м, $CN = 3$ м, $BK = 3$ м.

Задача 7.5.



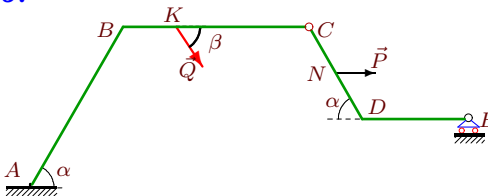
$P = 5$ кН, $Q = 3$ кН, $\alpha = 60^\circ$, $\beta = 45^\circ$,
 $AB = 6$ м, $BC = 6$ м, $CD = 10$ м,
 $DE = 6$ м, $CN = 3$ м, $CK = 2$ м.

Задача 7.7.



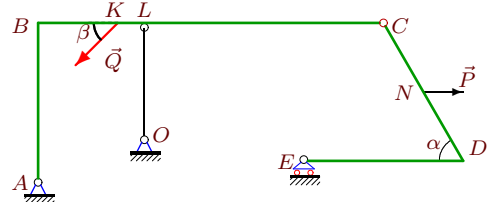
$P = 6$ кН, $Q = 2$ кН, $\alpha = 60^\circ$, $\beta = 30^\circ$,
 $AB = 4$ м, $BC = 6$ м, $CD = 9$ м,
 $DE = 4$ м, $CN = 3$ м, $CK = 2$ м.

Задача 7.9.



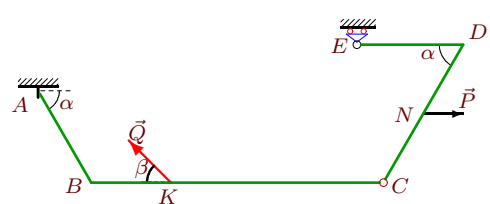
$P = 8$ кН, $Q = 3$ кН, $\alpha = 60^\circ$, $\beta = 60^\circ$,
 $AB = 7$ м, $BC = 7$ м, $CD = 4$ м,
 $DE = 4$ м, $CN = 2$ м, $BK = 2$ м.

Задача 7.2.



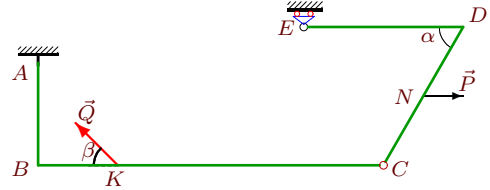
$P = 5$ кН, $Q = 8$ кН, $\alpha = 60^\circ$, $\beta = 30^\circ$,
 $AB = 6$ м, $BC = 13$ м, $CD = 6$ м,
 $DE = 6$ м, $CN = 3$ м, $BK = 3$ м, $LC = 9$ м.

Задача 7.4.



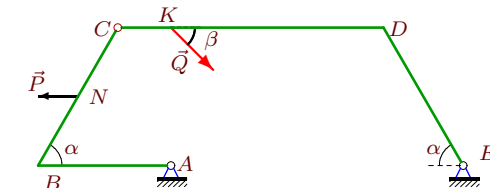
$P = 7$ кН, $Q = 6$ кН, $\alpha = 60^\circ$, $\beta = 45^\circ$,
 $AB = 4$ м, $BC = 11$ м, $CD = 6$ м,
 $DE = 4$ м, $CN = 3$ м, $BK = 3$ м.

Задача 7.6.



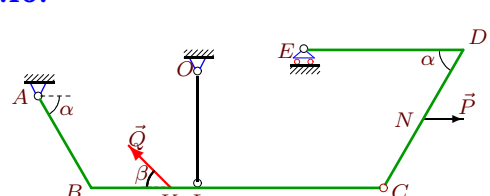
$P = 6$ кН, $Q = 9$ кН, $\alpha = 60^\circ$, $\beta = 30^\circ$,
 $AB = 4$ м, $BC = 13$ м, $CD = 6$ м,
 $DE = 6$ м, $CN = 3$ м, $BK = 3$ м.

Задача 7.8.



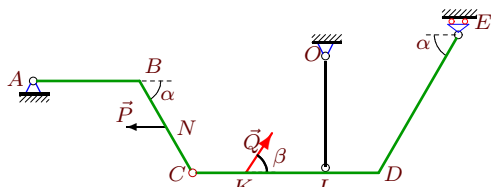
$P = 4$ кН, $Q = 4$ кН, $\alpha = 60^\circ$, $\beta = 30^\circ$,
 $AB = 5$ м, $BC = 6$ м, $CD = 10$ м,
 $DE = 6$ м, $CN = 3$ м, $CK = 2$ м.

Задача 7.10.



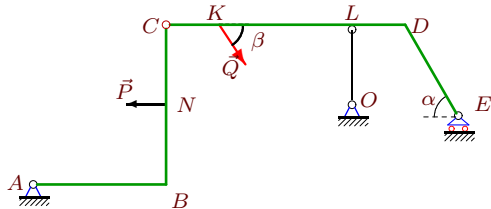
$P = 6$ кН, $Q = 5$ кН, $\alpha = 60^\circ$, $\beta = 45^\circ$,
 $AB = 4$ м, $BC = 11$ м, $CD = 6$ м,
 $DE = 6$ м, $CN = 3$ м, $BK = 3$ м, $LC = 7$ м.

Задача 7.11.



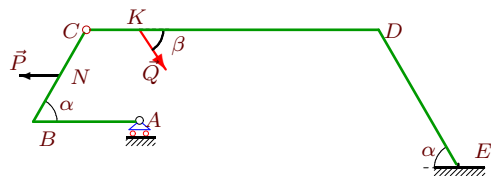
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 7 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.13.



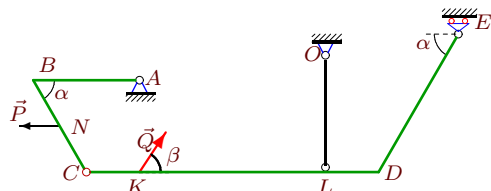
$P = 7 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 5 \text{ м}, BC = 6 \text{ м}, CD = 9 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.15.



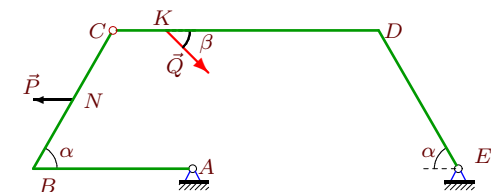
$P = 9 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 11 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.17.



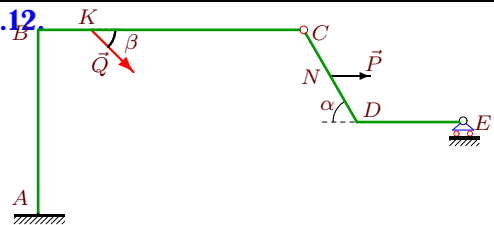
$P = 7 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 11 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.19.



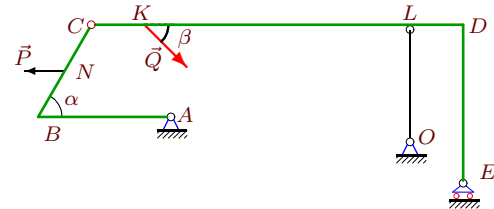
$P = 4 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 6 \text{ м}, CD = 10 \text{ м},$
 $DE = 6 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}.$

Задача 7.12.



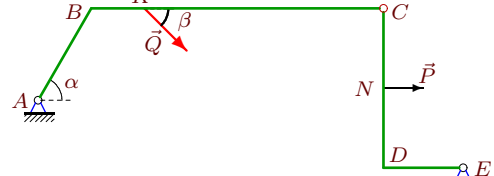
$P = 6 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 7 \text{ м}, BC = 10 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.14.



$P = 5 \text{ кН}, Q = 1 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 5 \text{ м}, BC = 4 \text{ м}, CD = 14 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.16.



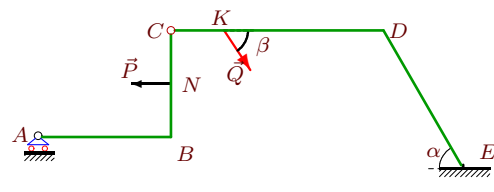
$P = 4 \text{ кН}, Q = 2 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 11 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.18.



$P = 8 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 7 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

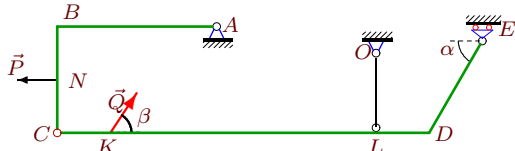
Задача 7.20.



$P = 9 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 5 \text{ м}, BC = 4 \text{ м}, CD = 8 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.21.

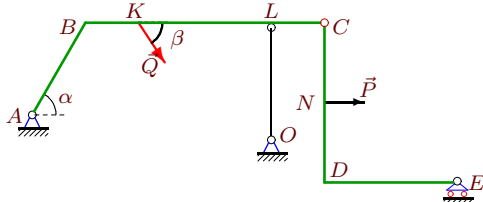
3



$P = 7 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 4 \text{ м}, CD = 14 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.23.

3



$P = 7 \text{ кН}, Q = 2 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 9 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}. LC = 2 \text{ м}.$

Задача 7.25.

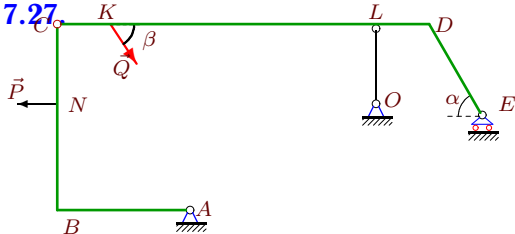
3



$P = 6 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 11 \text{ м}, CD = 4 \text{ м},$
 $DE = 3 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.27.

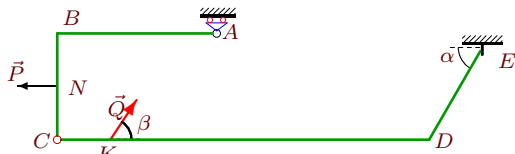
3



$P = 8 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 5 \text{ м}, BC = 7 \text{ м}, CD = 14 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.29.

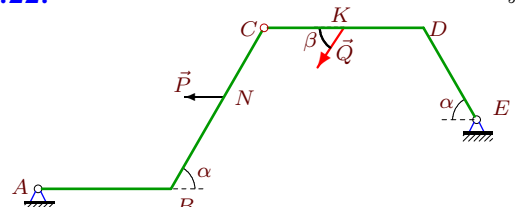
3



$P = 9 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 6 \text{ м}, BC = 4 \text{ м}, CD = 14 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.22.

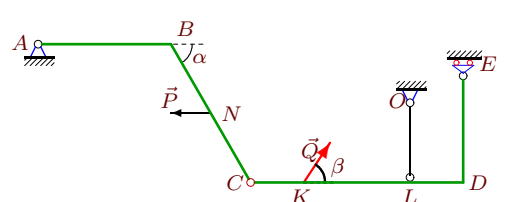
3



$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 5 \text{ м}, BC = 7 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 3 \text{ м}.$

Задача 7.24.

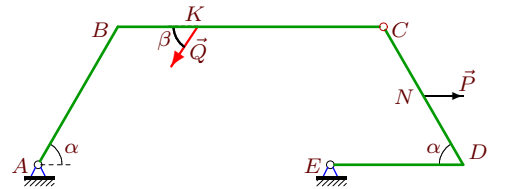
3



$P = 8 \text{ кН}, Q = 1 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 5 \text{ м}, BC = 6 \text{ м}, CD = 8 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.26.

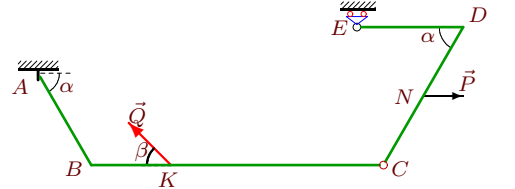
3



$P = 7 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 6 \text{ м}, BC = 10 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.28.

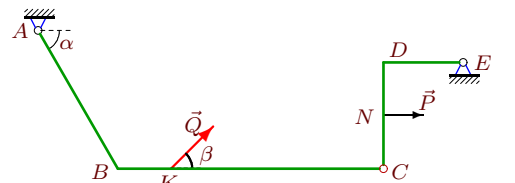
3



$P = 7 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 11 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.30.

3



$P = 4 \text{ кН}, Q = 2 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 10 \text{ м}, CD = 4 \text{ м},$
 $DE = 3 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Составная конструкция

	X_A	Y_A	X_E	Y_E	S_{OL}	M	X_C	Y_C
1	-6.293	1.626	—	-2.333	—	0.392	7.000	-2.333
2	1.928	13.635	—	4.330	-13.965		5.000	4.330
3	-2.991	0.543	-2.009	1.189	—		3.991	1.189
4	-2.757	13.944	—	-18.187	—	205.660	7.000	-18.187
5	1.039	2.530	1.840	-0.409	—		3.961	-2.530
6	1.794	0.696	—	-5.196	—	61.227	6.000	-5.196
7	—	-2.227	4.268	3.227	—	-44.114	6.000	2.227
8	1.496	1.308	-0.961	0.692	—		2.504	-1.308
9	-9.500	4.907	—	-2.309	—	96.129	8.000	-2.309
10	-2.464	-5.229	—	-5.196	6.889		6.000	-5.196
11	5.000	-0.866	—	1.212	-3.811		2.000	0.866
12	-12.928	5.732	—	-1.732	—	115.818	6.000	-1.732
13	3.500	-0.000	—	-7.578	13.640		3.500	0.000
14	4.134	-1.887	—	-13.821	16.207		0.866	1.887
15	—	7.794	7.706	-2.965	—	11.123	9.000	-7.794
16	-3.158	-0.149	-2.575	1.149	—		1.425	1.149
17	4.500	1.732	—	9.180	-15.242		2.500	-1.732
18	-4.500	-0.866	—	6.928	—	-47.308	8.000	6.928
19	1.169	1.439	-0.633	0.561	—		2.831	-1.439
20	—	-3.600	7.188	10.361	—	-137.805	9.000	3.600
21	3.000	-0.333	—	16.321	-22.915		4.000	0.333
22	7.009	2.859	1.026	1.004	—		-0.009	-2.859
23	-8.000	-3.050	—	-4.200	8.982		7.000	-4.200
24	7.741	-2.430	—	-5.358	6.822		0.259	2.430
25	-3.219	-3.789	-6.281	-2.273	—		-0.281	-2.273
26	-3.621	1.153	-2.085	3.676	—		4.915	3.676
27	6.188	-3.864	—	-28.494	39.119		1.812	3.864
28	-4.879	16.065	—	-18.187	—	208.918	7.000	-18.187
29	—	-3.000	7.188	-3.761	—	71.562	9.000	3.000
30	-2.649	0.444	-3.083	-1.444	—		0.917	-1.444