

Составная конструкция

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

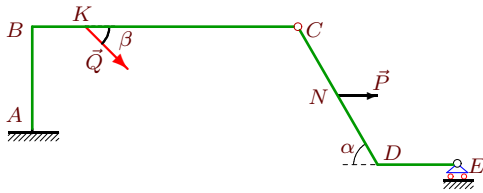
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.- М.:ФИЗМАТЛИТ, 2002.- 384 с. (с.67.)

Задача 7.1.



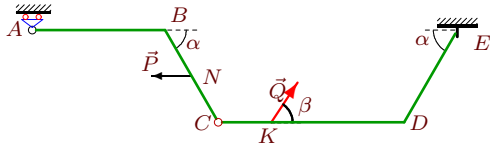
$P = 5 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 11 \text{ м}, CD = 4 \text{ м},$
 $DE = 3 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.3.



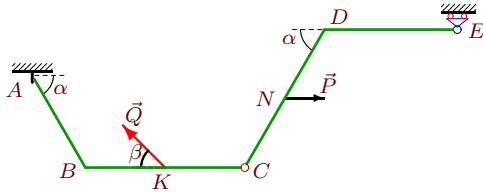
$P = 6 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 10 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.5.



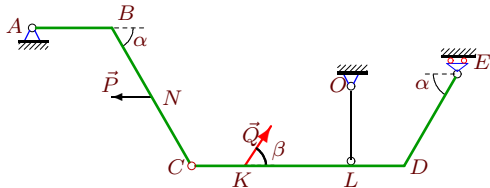
$P = 8 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 5 \text{ м}, BC = 4 \text{ м}, CD = 7 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.7.



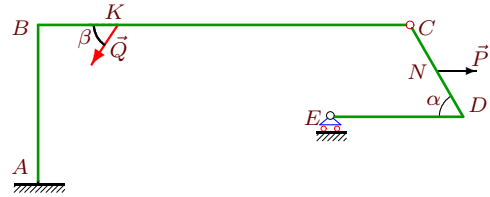
$P = 6 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 6 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.9.



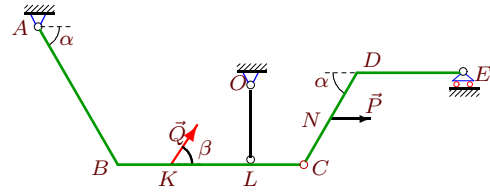
$P = 8 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 3 \text{ м}, BC = 6 \text{ м}, CD = 8 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}, LD = 2 \text{ м}.$

Задача 7.2.



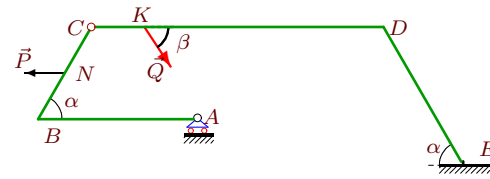
$P = 8 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Задача 7.4.



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

Задача 7.6.



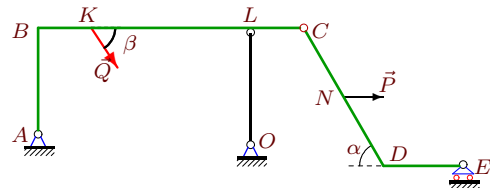
$P = 8 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 4 \text{ м}, CD = 11 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.8.



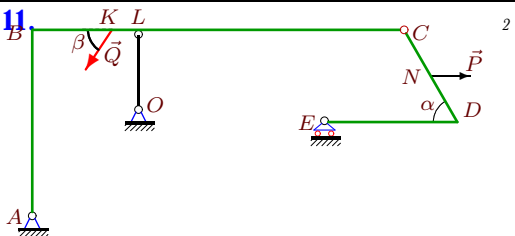
$P = 4 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 12 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Задача 7.10.



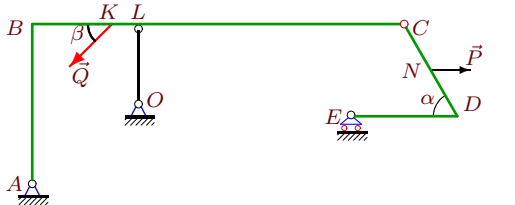
$P = 8 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 4 \text{ м}, BC = 10 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}, LC = 2 \text{ м}.$

Задача 7.11.



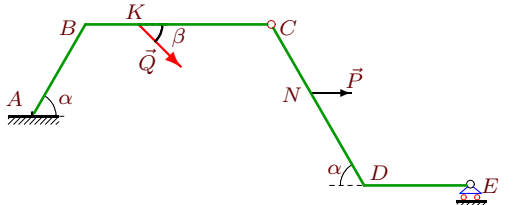
$P = 8 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 7 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}. LC =$
 $10 \text{ м}.$

Задача 7.13.



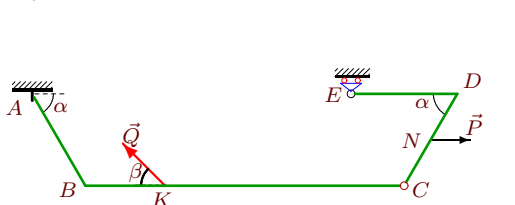
$P = 6 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}. LC =$
 $10 \text{ м}.$

Задача 7.15.



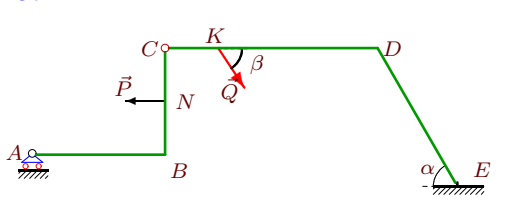
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 7 \text{ м}, CD = 7 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.17.



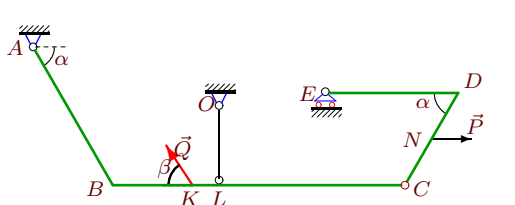
$P = 7 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 12 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Задача 7.19.



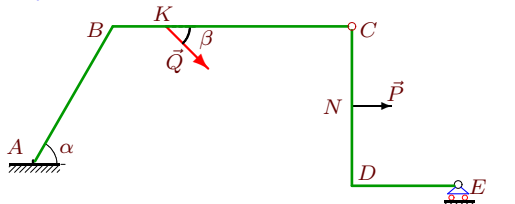
$P = 8 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 5 \text{ м}, BC = 4 \text{ м}, CD = 8 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.12.



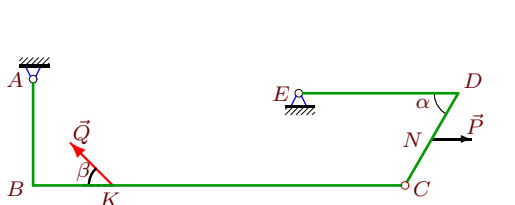
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 11 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}. LC = 7 \text{ м}.$

Задача 7.14.



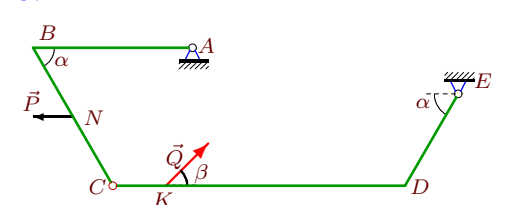
$P = 6 \text{ кН}, Q = 2 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 9 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.16.



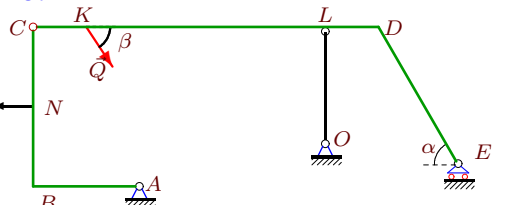
$P = 4 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Задача 7.18.



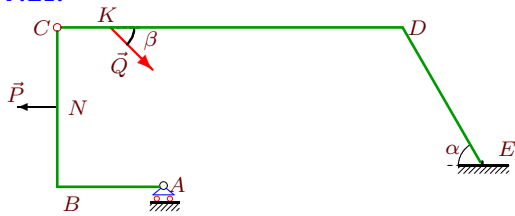
$P = 5 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 6 \text{ м}, CD = 11 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}.$

Задача 7.20.



$P = 8 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 4 \text{ м}, BC = 6 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}.$

Задача 7.21.



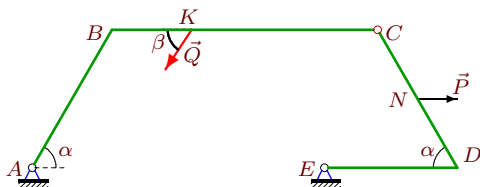
$P = 7 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 6 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}.$

Задача 7.23.



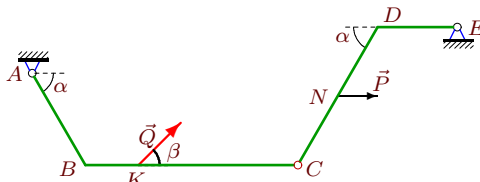
$P = 8 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 14 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.25.



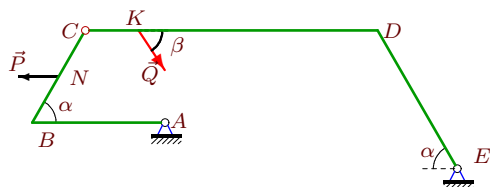
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 6 \text{ м}, BC = 10 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.27.



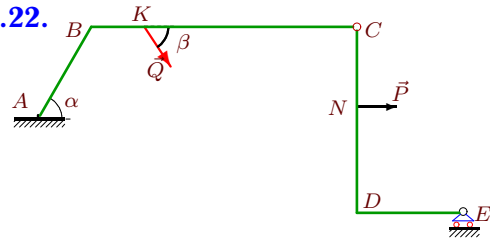
$P = 5 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 8 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.29.



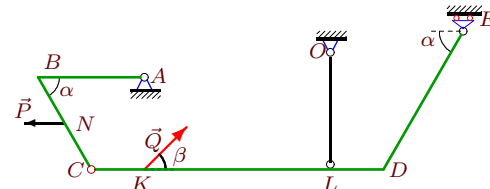
$P = 6 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 5 \text{ м}, BC = 4 \text{ м}, CD = 11 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.22.



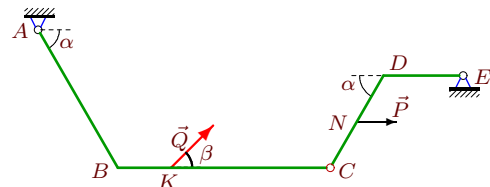
$P = 9 \text{ кН}, Q = 1 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 4 \text{ м}, BC = 10 \text{ м}, CD = 7 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.24.



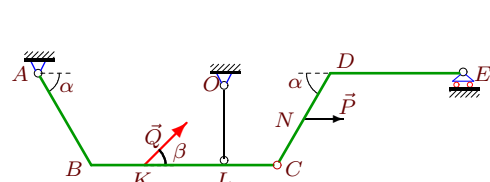
$P = 6 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 11 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}, LD = 2 \text{ м}.$

Задача 7.26.



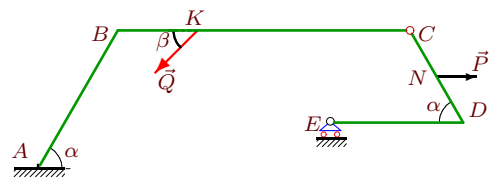
$P = 5 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 8 \text{ м}, CD = 4 \text{ м},$
 $DE = 3 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.28.



$P = 6 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 7 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}, LC = 2 \text{ м}.$

Задача 7.30.



$P = 7 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 11 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Составная конструкция

	X_A	Y_A	X_E	Y_E	S_{OL}	M	X_C	Y_C
1	-4.718	-3.491	-6.646	-2.873	—		-1.646	-2.873
2	-4.000	2.309	—	4.619	—	-19.879	8.000	4.619
3	-13.794	7.098	—	-2.598	—	90.158	6.000	-2.598
4	-9.553	4.609	—	2.309	-12.714		8.000	2.309
5	—	1.979	6.500	-4.578	—	58.519	8.000	-1.979
6	—	3.464	6.500	-0.866	—	-16.454	8.000	-3.464
7	-1.670	-4.449	—	1.949	—	-33.873	6.000	1.949
8	2.117	-2.131	-1.787	-0.369	—		2.213	-0.369
9	6.965	-2.568	—	0.012	-1.309		1.035	2.568
10	-9.553	-1.296	—	-3.464	10.555		8.000	-3.464
11	-5.671	3.797	—	4.619	0.278		8.000	4.619
12	-5.000	-0.825	—	-4.041	1.402		7.000	-4.041
13	-0.343	13.890	—	5.196	-13.429		6.000	5.196
14	-7.732	5.500	—	-4.500	—	99.177	6.000	-4.500
15	-9.828	5.253	—	-2.425	—	67.184	7.000	-2.425
16	4.770	-4.113	-2.708	0.613	—		1.292	0.613
17	-4.879	3.941	—	-6.062	—	57.364	7.000	-6.062
18	0.927	-2.725	1.245	-0.103	—		4.073	2.725
19	—	-3.200	4.500	9.262	—	-113.142	8.000	3.200
20	5.929	-2.894	—	-20.277	30.898		2.071	2.894
21	—	5.250	2.050	-0.300	—	4.050	7.000	-5.250
22	-9.259	7.716	—	-6.750	—	116.937	9.000	-6.750
23	—	-4.000	3.500	-3.794	—	57.244	8.000	4.000
24	2.464	-0.928	—	3.280	-5.888		3.536	0.928
25	-3.724	0.592	-2.241	3.272	—		4.759	3.272
26	-1.920	-0.250	-5.201	-1.871	—		-0.201	-1.871
27	-2.873	-0.702	-4.956	-2.127	—		0.044	-2.127
28	-8.828	3.581	—	1.485	-7.894		6.000	1.485
29	-1.974	5.743	5.474	-1.413	—		7.974	-5.743
30	-3.464	-0.506	—	4.041	—	-17.365	7.000	4.041