

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.

$P = 7 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 7 \text{ м}, BC = 14 \text{ м}, CD = 4 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}.$

Задача 7.2.

$P = 6 \text{ кН}, Q = 1 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 5 \text{ м}, BC = 6 \text{ м}, CD = 13 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.3.

$P = 5 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 10 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}. LC = 6 \text{ м}.$

Задача 7.4.

$P = 8 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 7 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.5.

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

Задача 7.6.

$P = 7 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 5 \text{ м}, BC = 6 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.7.

$P = 5 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 13 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.8.

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

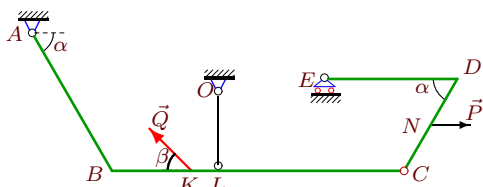
Задача 7.9.

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

Задача 7.10.

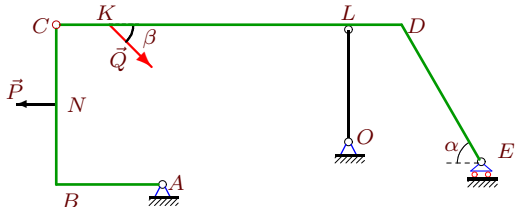
$P = 7 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 6 \text{ м}, BC = 8 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.11.



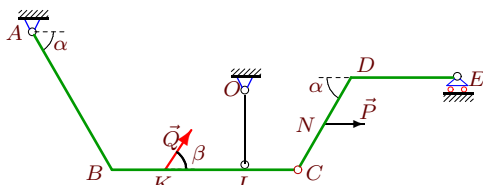
$P = 5 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 11 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 3 \text{ м}. LC = 7 \text{ м}.$

Задача 7.13.



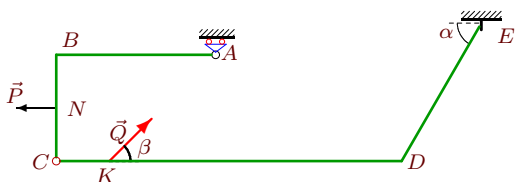
$P = 5 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 6 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}. LD = 2 \text{ м}$

Задача 7.15.



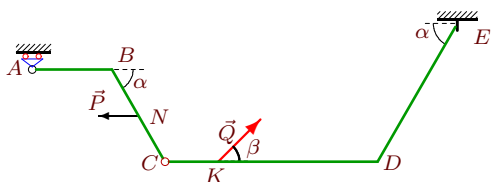
$P = 7 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 7 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}. LC = 2 \text{ м}.$

Задача 7.17.



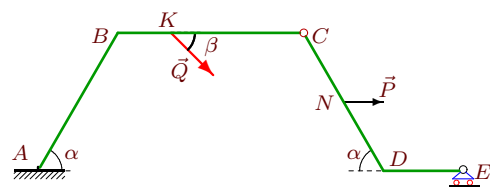
$P = 7 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 4 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.19.



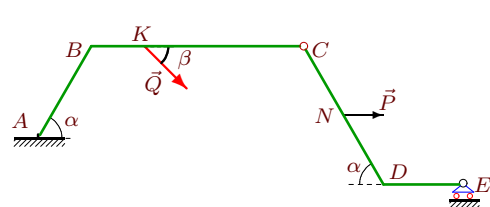
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 3 \text{ м}, BC = 4 \text{ м}, CD = 8 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.12.



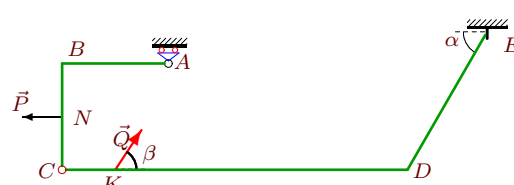
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 6 \text{ м}, BC = 7 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.14.



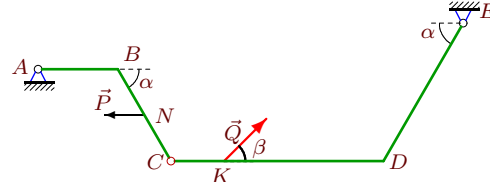
$P = 7 \text{ кН}, Q = 4 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 4 \text{ м}, BC = 8 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}.$

Задача 7.16.



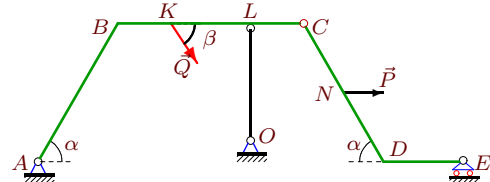
$P = 9 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.18.



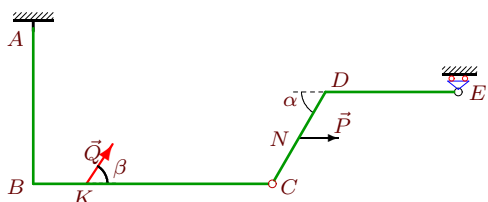
$P = 5 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 45^\circ,$
 $AB = 3 \text{ м}, BC = 4 \text{ м}, CD = 8 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.20.



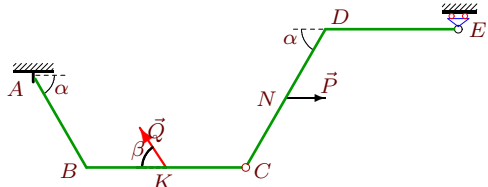
$P = 7 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 6 \text{ м}, BC = 7 \text{ м}, CD = 6 \text{ м},$
 $DE = 3 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}. LC = 2 \text{ м}.$

Задача 7.21.



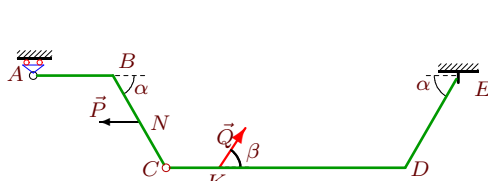
$P = 9 \text{ кН}, Q = 7 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 6 \text{ м}, BC = 9 \text{ м}, CD = 4 \text{ м},$
 $DE = 5 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.23.



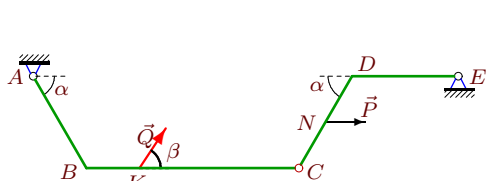
$P = 8 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 6 \text{ м}, CD = 6 \text{ м},$
 $DE = 5 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.25.



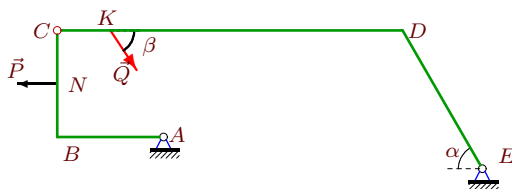
$P = 8 \text{ кН}, Q = 3 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 3 \text{ м}, BC = 4 \text{ м}, CD = 9 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.27.



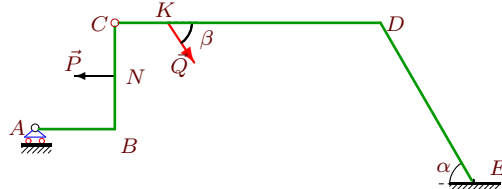
$P = 6 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 8 \text{ м}, CD = 4 \text{ м},$
 $DE = 4 \text{ м}, CN = 2 \text{ м}, BK = 2 \text{ м}.$

Задача 7.29.



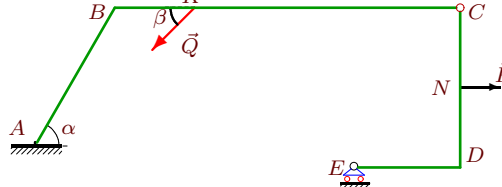
$P = 6 \text{ кН}, Q = 6 \text{ кН}, \alpha = 60^\circ, \beta = 60^\circ,$
 $AB = 4 \text{ м}, BC = 4 \text{ м}, CD = 13 \text{ м},$
 $DE = 6 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.22.



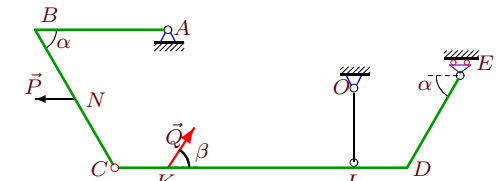
$P = 9 \text{ кН}, Q = 8 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 3 \text{ м}, BC = 4 \text{ м}, CD = 10 \text{ м},$
 $DE = 7 \text{ м}, CN = 2 \text{ м}, CK = 2 \text{ м}.$

Задача 7.24.



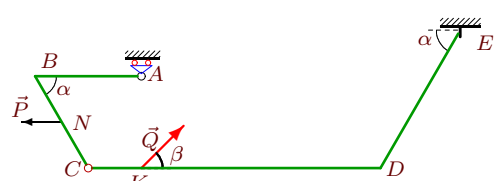
$P = 6 \text{ кН}, Q = 2 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 6 \text{ м}, BC = 13 \text{ м}, CD = 6 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 3 \text{ м}.$

Задача 7.26.



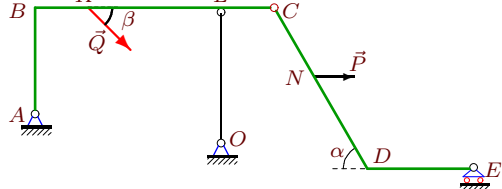
$P = 8 \text{ кН}, Q = 5 \text{ кН}, \alpha = 60^\circ, \beta = 75^\circ,$
 $AB = 5 \text{ м}, BC = 6 \text{ м}, CD = 11 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, CK = 2 \text{ м}, LD = 2 \text{ м}.$

Задача 7.28.



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

Задача 7.30.



$P = 5 \text{ кН}, Q = 9 \text{ кН}, \alpha = 60^\circ, \beta = 30^\circ,$
 $AB = 4 \text{ м}, BC = 9 \text{ м}, CD = 7 \text{ м},$
 $DE = 4 \text{ м}, CN = 3 \text{ м}, BK = 2 \text{ м}, LC = 2 \text{ м}.$

Составная конструкция

	X_A	Y_A	X_E	Y_E	S_{OL}	M	X_C	Y_C
1	-8.000	0.554	2.553	5.242	—		9.553	5.242
2	5.293	5.957	—	35.946	-42.610		0.707	-5.957
3	-2.402	3.999	—	6.495	-8.994		5.000	6.495
4	-11.000	-8.165	—	2.969	—	-85.613	8.000	2.969
5	6.500	2.273	1.000	0.325	—		-0.500	-2.273
6	3.500	0.000	—	-10.912	16.974		3.500	0.000
7	2.447	4.937	-2.498	0.013	—		2.502	0.013
8	-4.879	4.719	—	-2.598	—	61.461	7.000	-2.598
9	—	-2.309	6.000	5.774	—	-81.984	8.000	2.309
10	-1.205	4.892	-7.866	2.836	—		-0.866	2.836
11	-1.536	-2.032	—	-2.887	2.919		5.000	-2.887
12	-9.828	5.860	—	-3.031	—	95.523	7.000	-3.031
13	-1.928	6.642	—	7.413	-10.055		6.928	-6.642
14	-9.828	5.860	—	-3.031	—	75.671	7.000	-3.031
15	-9.500	5.052	—	2.021	-11.403		7.000	2.021
16	—	-4.500	6.671	-4.193	—	84.368	9.000	4.500
17	—	-2.333	2.757	-1.909	—	36.391	7.000	2.333
18	4.773	-1.575	-4.015	-2.668	—		0.227	1.575
19	—	2.425	4.172	-5.253	—	73.806	7.000	-2.425
20	-8.500	-5.304	—	-3.031	10.934		7.000	-3.031
21	-10.812	-8.988	—	2.227	—	-98.436	9.000	2.227
22	—	-6.000	6.929	13.727	—	-211.873	9.000	6.000
23	-5.000	-7.794	—	2.598	—	-64.086	8.000	2.598
24	-4.268	-3.500	—	4.500	—	-43.823	6.000	4.500
25	—	2.771	6.500	-5.369	—	76.383	8.000	-2.771
26	6.706	7.030	—	24.270	-36.129		1.294	-7.030
27	-1.562	-2.057	-6.938	-2.273	—		-0.938	-2.273
28	—	-6.062	3.464	2.527	—	-24.442	7.000	6.062
29	-3.733	6.733	6.733	-1.537	—		9.733	-6.733
30	-12.794	-4.592	—	-1.732	10.824		5.000	-1.732