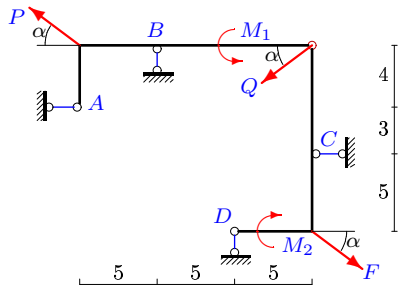
Простая составная конструкция

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

Кирсанов М.Н. Задачи по теоретической механике с решениями в **Maple** 11. – М.: ФИЗМАТЛИТ, 2010. — 264 с. (с.15)

Задача 24.1.

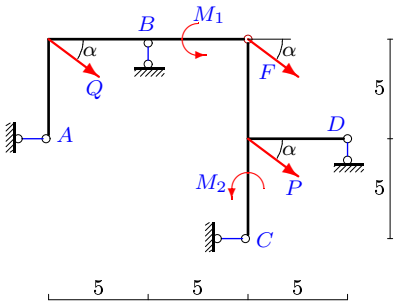
12



$P = 5$кН, $Q = 30$кН, $F = 15$кН,
$M_1 = 75$ кНм, $M_2 = 151$ кНм, $\cos\alpha = 0,8$.

Задача 24.2.

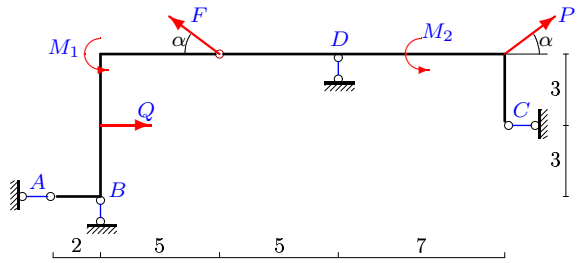
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 80$ кНм, $M_2 = 120$ кНм, $\cos\alpha = 0,6$.

Задача 24.3.

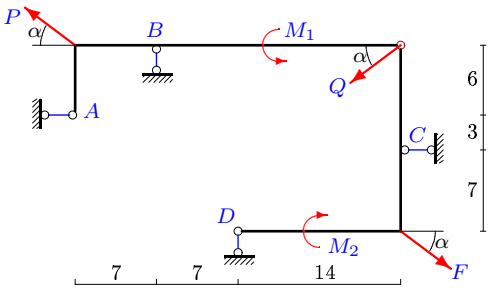
12



$P = 10$кН, $Q = 15$кН, $F = 5$кН,
$M_1 = 103$ кНм, $M_2 = 49$ кНм, $\sin\alpha = 0,8$.

Задача 24.4.

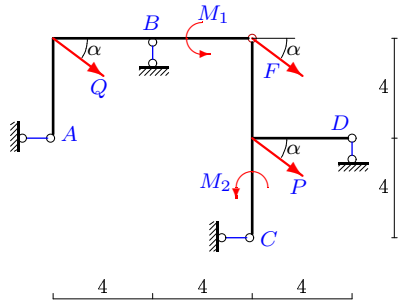
12



$P = 5$кН, $Q = 20$кН, $F = 15$кН,
$M_1 = 135$ кНм, $M_2 = 36$ кНм, $\cos\alpha = 0,8$.

Задача 24.5.

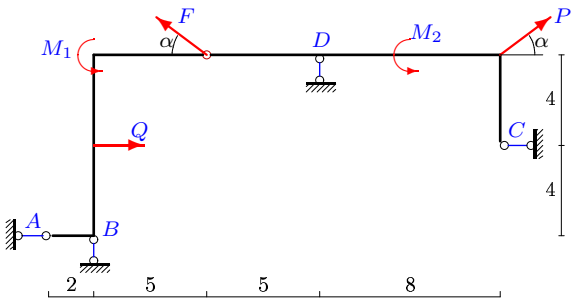
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 64$ кНм, $M_2 = 96$ кНм, $\cos\alpha = 0,6$.

Задача 24.6.

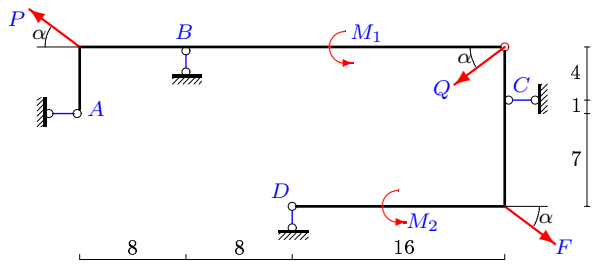
12



$P = 10$кН, $Q = 15$кН, $F = 5$кН,
$M_1 = 124$ кНм, $M_2 = 56$ кНм, $\sin\alpha = 0,8$.

Задача 24.7.

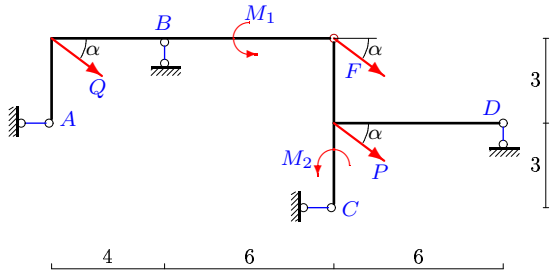
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 154$ кНм, $M_2 = 8$ кНм, $\cos\alpha = 0,8$.

Задача 24.8.

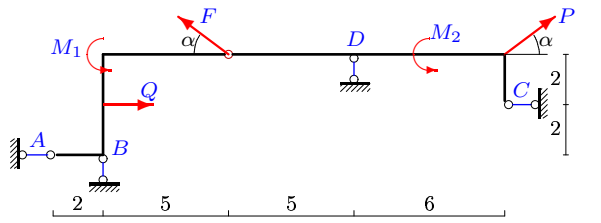
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 104$ кНм, $M_2 = 9$ кНм, $\cos\alpha = 0,6$.

Задача 24.9.

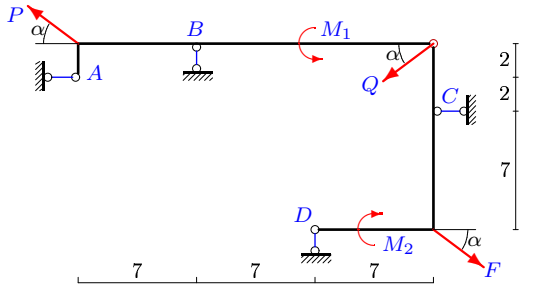
12



$P = 10$кН, $Q = 15$кН, $F = 5$кН,
$M_1 = 82$ кНм, $M_2 = 42$ кНм, $\sin\alpha = 0,8$.

Задача 24.10.

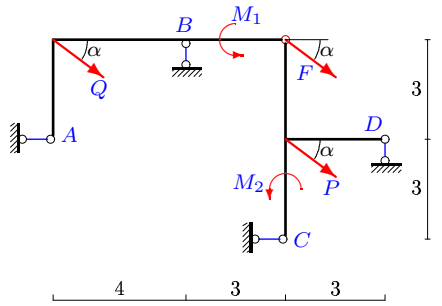
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 79$ кНм, $M_2 = 59$ кНм, $\cos\alpha = 0,8$.

Задача 24.11.

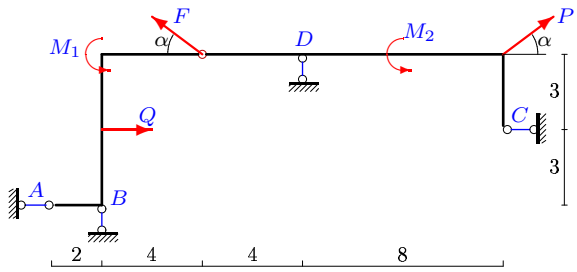
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 44$ кНм, $M_2 = 81$ кНм, $\cos\alpha = 0,6$.

Задача 24.12.

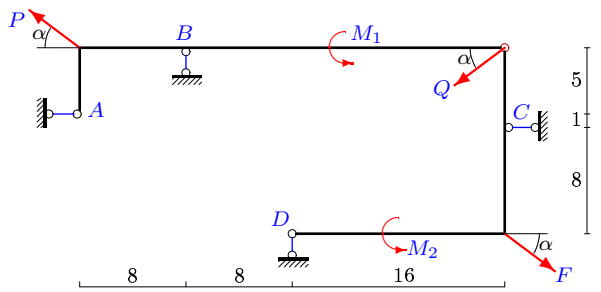
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 86$ кНм, $M_2 = 20$ кНм, $\sin\alpha = 0,8$.

Задача 24.13.

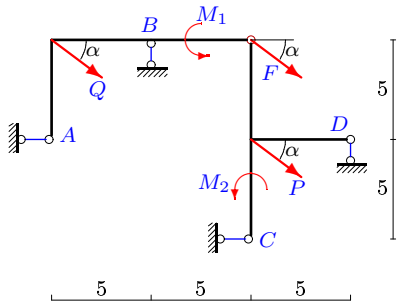
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 115$ кНм, $M_2 = 14$ кНм, $\cos\alpha = 0,8$.

Задача 24.14.

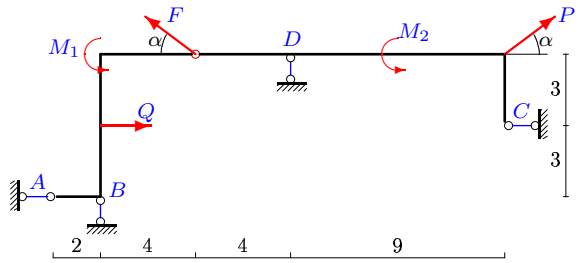
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 80$ кНм, $M_2 = 105$ кНм, $\cos\alpha = 0,6$.

Задача 24.15.

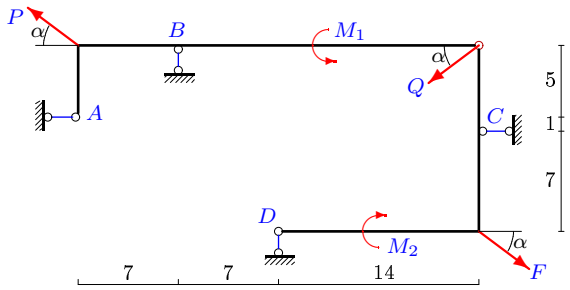
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 86$ кНм, $M_2 = 12$ кНм, $\sin\alpha = 0,8$.

Задача 24.16.

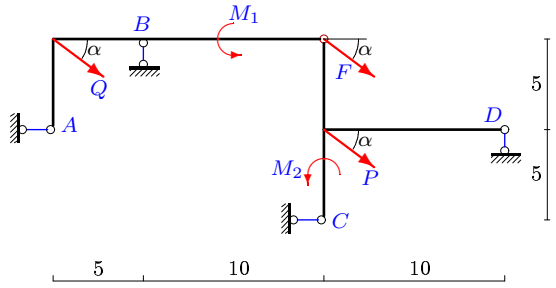
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 126$ кНм, $M_2 = 16$ кНм, $\cos\alpha = 0,8$.

Задача 24.17.

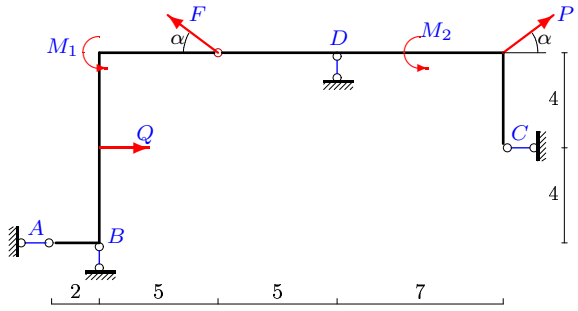
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 180$ кНм, $M_2 = 105$ кНм, $\cos\alpha = 0,6$.

Задача 24.18.

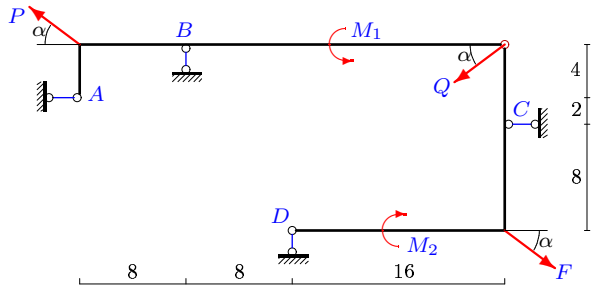
12



$P = 10$кН, $Q = 15$кН, $F = 5$кН,
$M_1 = 124$ кНм, $M_2 = 64$ кНм, $\sin\alpha = 0,8$.

Задача 24.19.

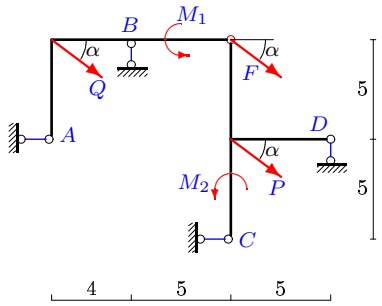
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 200$ кНм, $M_2 = 52$ кНм, $\cos\alpha = 0,8$.

Задача 24.20.

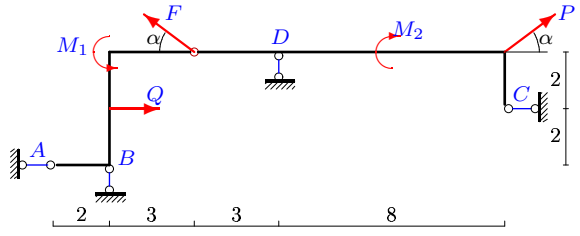
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 84$ кНм, $M_2 = 150$ кНм, $\cos\alpha = 0,6$.

Задача 24.21.

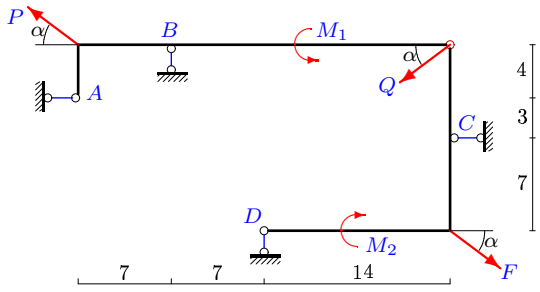
12



$P = 10$кН, $Q = 9$кН, $F = 5$кН,
$M_1 = 54$ кНм, $M_2 = 10$ кНм, $\sin\alpha = 0,8$.

Задача 24.22.

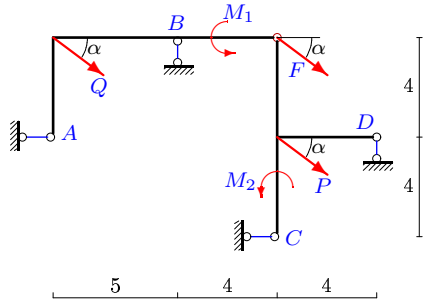
12



$P = 5$кН, $Q = 40$кН, $F = 15$кН,
$M_1 = 197$ кНм, $M_2 = 0$ кНм, $\cos\alpha = 0,8$.

Задача 24.23.

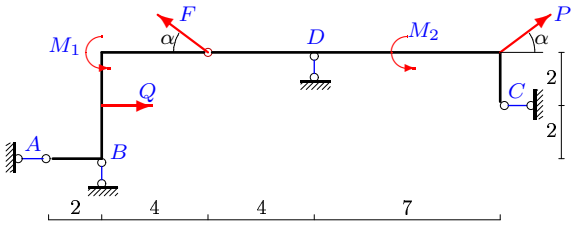
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 60$ кНм, $M_2 = 60$ кНм, $\cos\alpha = 0,6$.

Задача 24.24.

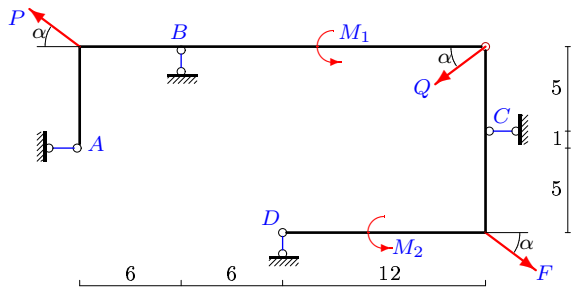
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 68$ кНм, $M_2 = 16$ кНм, $\sin\alpha = 0,8$.

Задача 24.25.

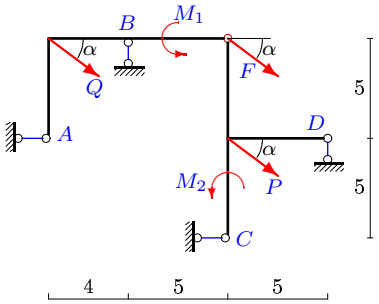
12



$P = 5$кН, $Q = 30$кН, $F = 15$кН,
$M_1 = 114$ кНм, $M_2 = 47$ кНм, $\cos\alpha = 0,8$.

Задача 24.26.

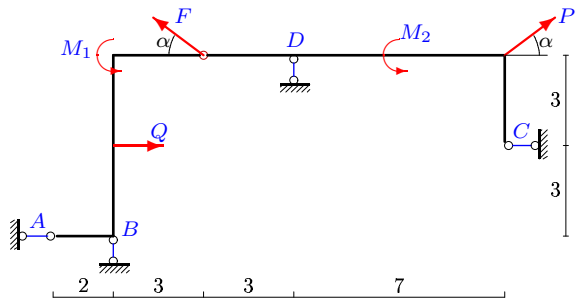
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 84$ кНм, $M_2 = 105$ кНм, $\cos\alpha = 0,6$.

Задача 24.27.

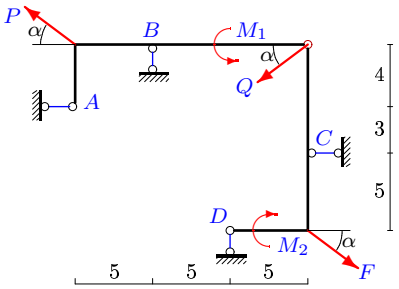
12



$P = 10$кН, $Q = 9$кН, $F = 5$кН,
$M_1 = 69$ кНм, $M_2 = 7$ кНм, $\sin\alpha = 0,8$.

Задача 24.28.

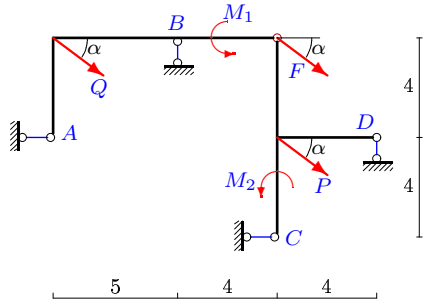
12



$P = 5$кН, $Q = 30$кН, $F = 15$кН,
$M_1 = 89$ кНм, $M_2 = 163$ кНм, $\cos\alpha = 0,8$.

Задача 24.29.

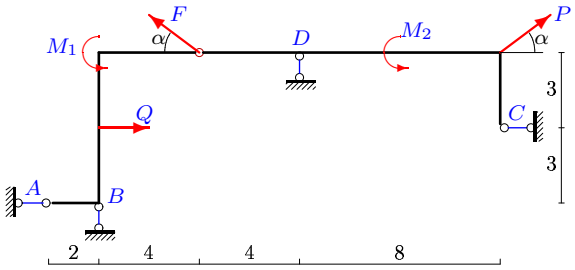
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 60$ кНм, $M_2 = 84$ кНм, $\cos\alpha = 0,6$.

Задача 24.30.

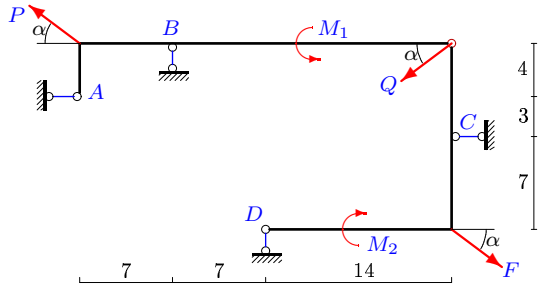
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 86$ кНм, $M_2 = 20$ кНм, $\sin\alpha = 0,8$.

Задача 24.31.

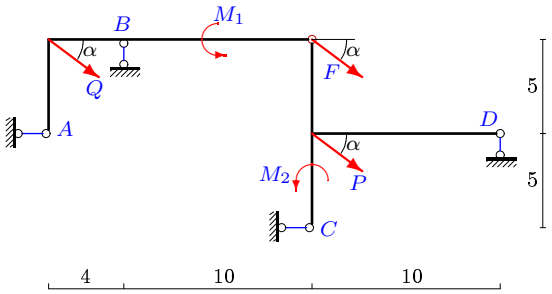
12



$P = 5$кН, $Q = 10$кН, $F = 15$кН,
$M_1 = 147$ кНм, $M_2 = 42$ кНм, $\cos\alpha = 0,8$.

Задача 24.32.

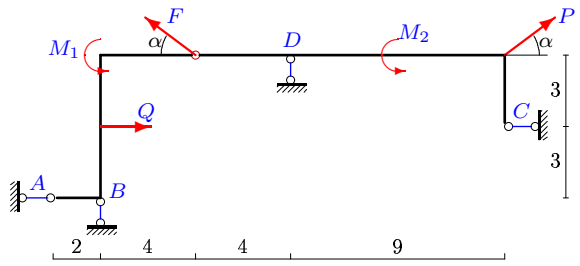
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 184$ кНм, $M_2 = 45$ кНм, $\cos\alpha = 0,6$.

Задача 24.33.

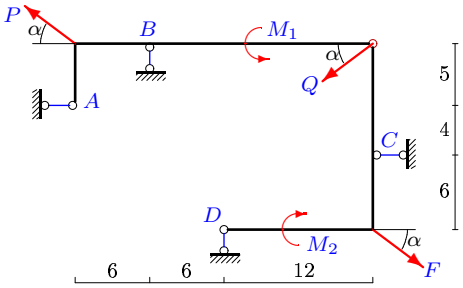
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 86$ кНм, $M_2 = 12$ кНм, $\sin\alpha = 0,8$.

Задача 24.34.

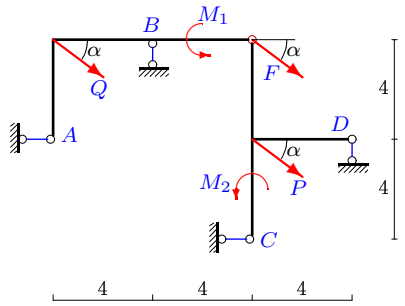
12



$P = 5$кН, $Q = 20$кН, $F = 15$кН,
$M_1 = 116$ кНм, $M_2 = 54$ кНм, $\cos\alpha = 0,8$.

Задача 24.35.

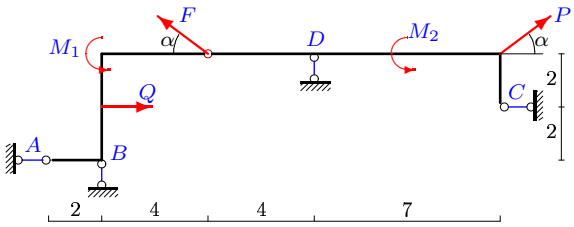
12



$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 64$ кНм, $M_2 = 108$ кНм, $\cos\alpha = 0,6$.

Задача 24.36.

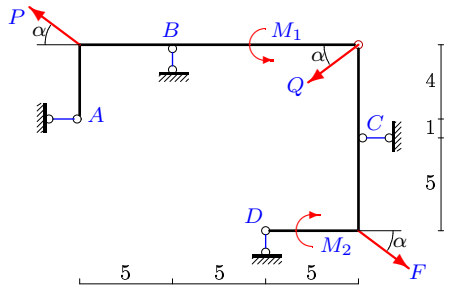
12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 68$ кНм, $M_2 = 16$ кНм, $\sin\alpha = 0,8$.

Задача 24.37.

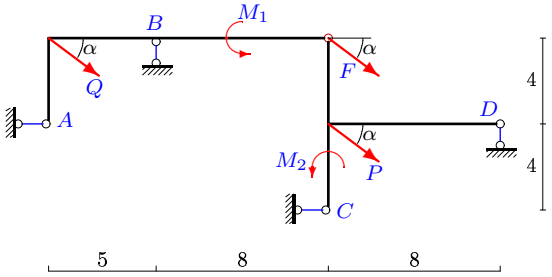
12



$P = 5$кН, $Q = 30$кН, $F = 15$кН,
$M_1 = 83$ кНм, $M_2 = 105$ кНм, $\cos\alpha = 0,8$.

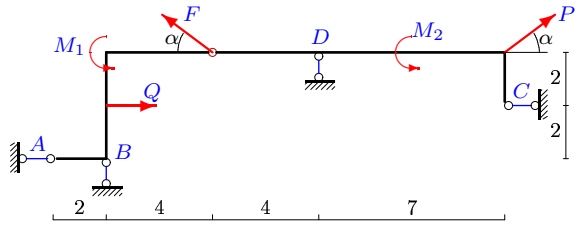
Задача 24.38.

12



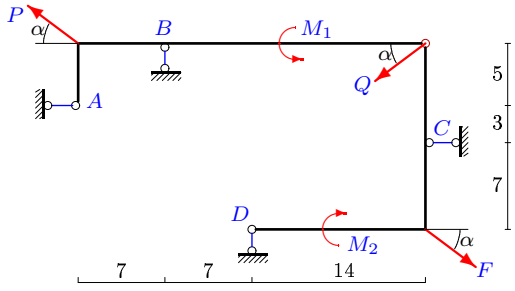
$P = 15$кН, $Q = 5$кН, $F = 10$кН,
$M_1 = 140$ кНм, $M_2 = 12$ кНм, $\cos\alpha = 0,6$.

Задача 24.39. 12



$P = 10$кН, $Q = 12$кН, $F = 5$кН,
$M_1 = 68$ кНм, $M_2 = 16$ кНм, $\sin\alpha = 0,8$.

Задача 24.40. 12



$P = 5$кН, $Q = 30$кН, $F = 15$кН,
$M_1 = 168$ кНм, $M_2 = 28$ кНм, $\cos\alpha = 0,8$.

S-24

Ответы.

Простая составная конструкция

01-Jun-23

№	X_A	Y_A	X_B	Y_B	Y_C	M_B	Y_D	M	X_C	
1	0	–	–	3	–	–	21	–	16	0
2	-1	–	–	23	–	–	1	–	-17	0.0
3	-13	–	–	14	–	–	-26	–	-5	0.0
4	2	–	–	3	–	–	15	–	6	0
5	-1	–	–	23	–	–	1	–	-17	0.0
6	-13	–	–	16	–	–	-28	–	-5	0.0
7	-2	–	–	2	–	–	10	–	2	0
8	-8	–	–	20	–	–	4	–	-10	0.0
9	-13	–	–	12	–	–	-24	–	-5	0.0
10	-1	–	–	1	–	–	11	–	1	0
11	0	–	–	24	–	–	0	–	-18	0.0
12	-11	–	–	14	–	–	-26	–	-4	0.0
13	1	–	–	1	–	–	11	–	-1	0
14	-2	–	–	22	–	–	2	–	-16	0.0
15	-11	–	–	14	–	–	-26	–	-4	0.0
16	0	–	–	2	–	–	10	–	0	0
17	-2	–	–	23	–	–	1	–	-16	0.0
18	-13	–	–	16	–	–	-28	–	-5	0.0
19	-2	–	–	4	–	–	8	–	2	0
20	1	–	–	25	–	–	-1	–	-19	0.0
21	-9	–	–	12	–	–	-24	–	-3	0.0
22	-2	–	–	5	–	–	25	–	26	0
23	-4	–	–	20	–	–	4	–	-14	0.0
24	-11	–	–	12	–	–	-24	–	-4	0.0
25	-1	–	–	2	–	–	22	–	17	0
26	-2	–	–	22	–	–	2	–	-16	0.0
27	-9	–	–	14	–	–	-26	–	-3	0.0
28	-1	–	–	4	–	–	20	–	17	0
29	-2	–	–	22	–	–	2	–	-16	0.0
30	-11	–	–	14	–	–	-26	–	-4	0.0
31	0	–	–	3	–	–	9	–	0	0
32	-6	–	–	21	–	–	3	–	-12	0.0
33	-11	–	–	14	–	–	-26	–	-4	0.0
34	2	–	–	3	–	–	15	–	6	0
35	0	–	–	24	–	–	0	–	-18	0.0
36	-11	–	–	12	–	–	-24	–	-4	0.0
37	-2	–	–	3	–	–	21	–	18	0
38	-8	–	–	20	–	–	4	–	-10	0.0
39	-11	–	–	12	–	–	-24	–	-4	0.0
40	0	–	–	4	–	–	20	–	16	0

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