

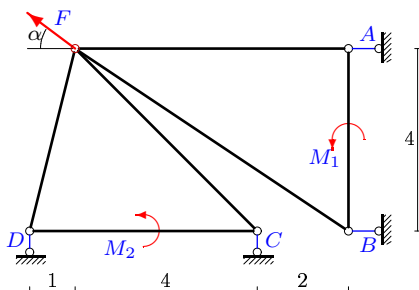
Простая составная конструкция

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.

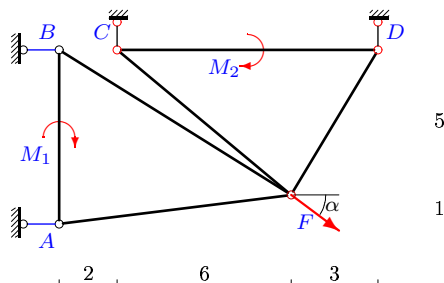
112



$F = 10$ кН, $M_1 = 4$ кНм, $M_2 = 9$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.2.

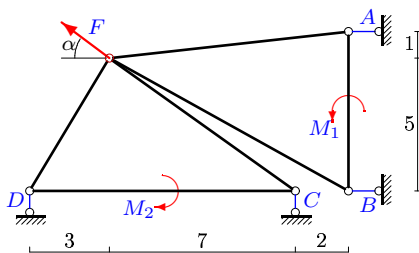
112



$F = 5$ кН, $M_1 = 2$ кНм, $M_2 = 18$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.3.

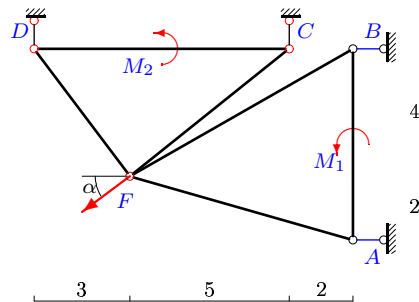
112



$F = 5$ кН, $M_1 = 16$ кНм, $M_2 = 59$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.4.

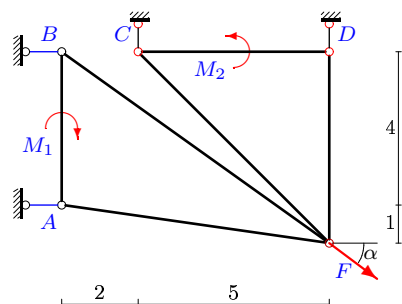
112



$F = 5$ кН, $M_1 = 4$ кНм, $M_2 = 17$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.5.

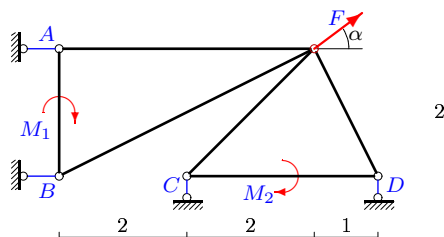
112



$F = 15$ кН, $M_1 = 4$ кНм, $M_2 = 10$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.6.

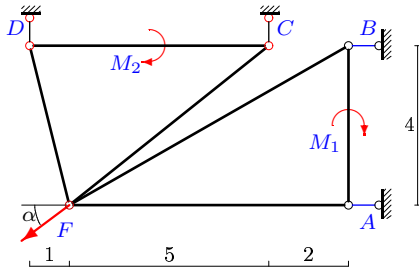
112



$F = 15$ кН, $M_1 = 4$ кНм, $M_2 = 6$ кНм,
 $\cos \alpha = 0,8$.

Задача 24.7.

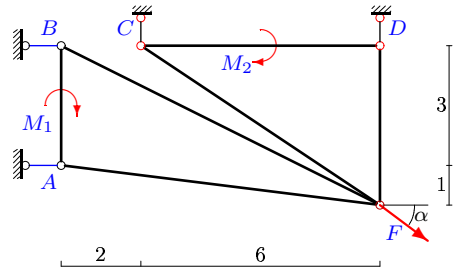
112



$F = 25 \text{ кН}$, $M_1 = 4 \text{ кНМ}$, $M_2 = 45 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.8.

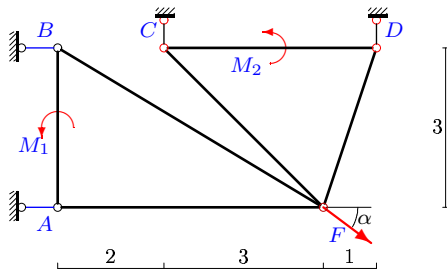
112



$F = 5 \text{ кН}$, $M_1 = 10 \text{ кНМ}$, $M_2 = 24 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.9.

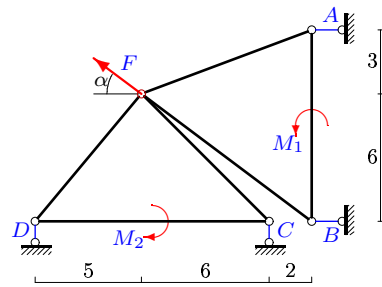
112



$F = 5 \text{ кН}$, $M_1 = 3 \text{ кНМ}$, $M_2 = 1 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.10.

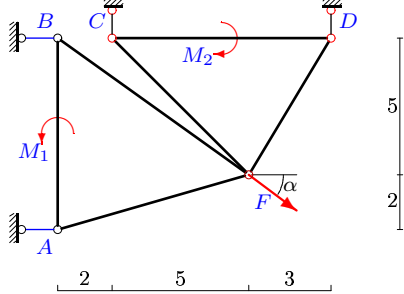
112



$F = 5 \text{ кН}$, $M_1 = 3 \text{ кНМ}$, $M_2 = 15 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.11.

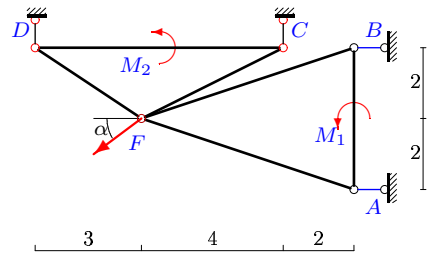
112



$F = 10 \text{ кН}$, $M_1 = 2 \text{ кНМ}$, $M_2 = 10 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.12.

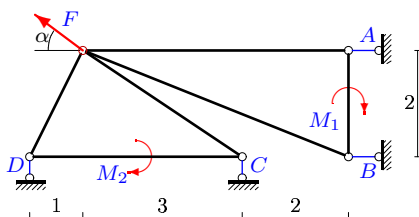
112



$F = 5 \text{ кН}$, $M_1 = 4 \text{ кНМ}$, $M_2 = 9 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.13.

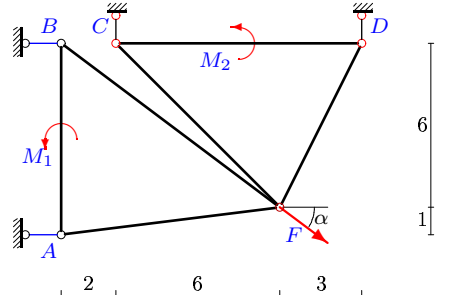
112



$F = 5 \text{ кН}$, $M_1 = 4 \text{ кНМ}$, $M_2 = 11 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.14.

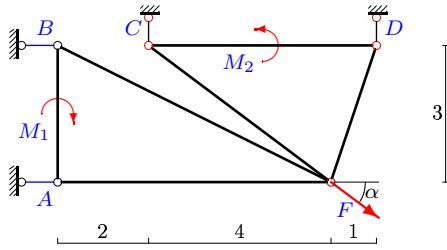
112



$F = 25 \text{ кН}$, $M_1 = 34 \text{ кНМ}$, $M_2 = 18 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.15.

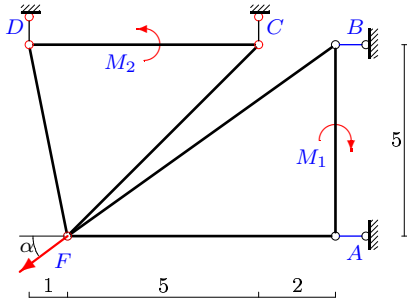
112



$F = 20$ кН, $M_1 = 6$ кНМ, $M_2 = 13$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.16.

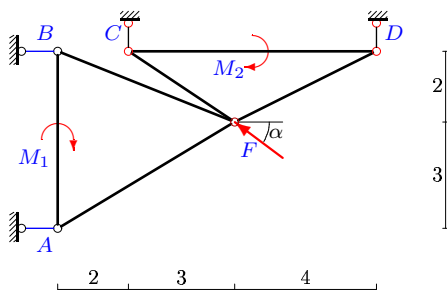
112



$F = 5$ кН, $M_1 = 5$ кНМ, $M_2 = 3$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.17.

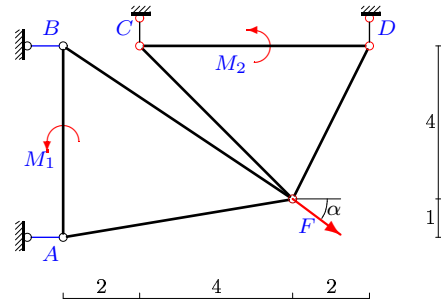
112



$F = 10$ кН, $M_1 = 14$ кНМ, $M_2 = 39$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.18.

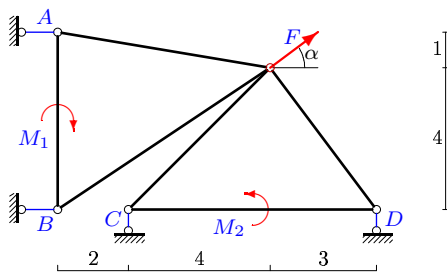
112



$F = 20$ кН, $M_1 = 26$ кНМ, $M_2 = 18$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.19.

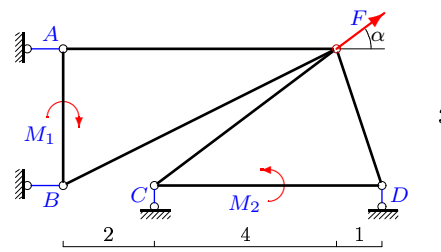
112



$F = 10$ кН, $M_1 = 13$ кНМ, $M_2 = 4$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.20.

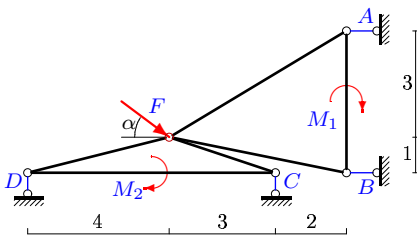
112



$F = 5$ кН, $M_1 = 6$ кНМ, $M_2 = 13$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.21.

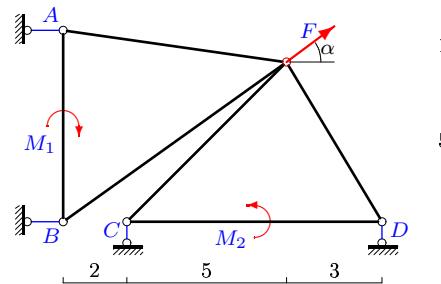
112



$F = 5$ кН, $M_1 = 8$ кНМ, $M_2 = 16$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.22.

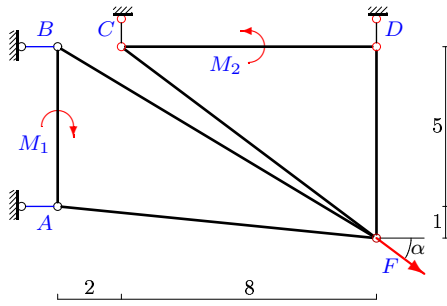
112



$F = 20$ кН, $M_1 = 4$ кНМ, $M_2 = 12$ кНМ,
 $\cos \alpha = 0,8$.

Задача 24.23.

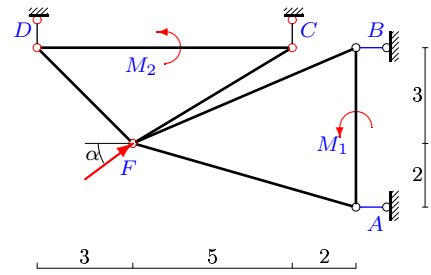
112



$F = 20 \text{ кН}$, $M_1 = 31 \text{ кНМ}$, $M_2 = 40 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.24.

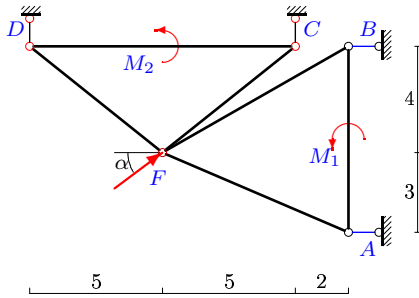
112



$F = 5 \text{ кН}$, $M_1 = 13 \text{ кНМ}$, $M_2 = 31 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.25.

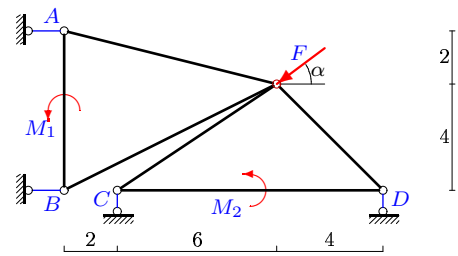
112



$F = 5 \text{ кН}$, $M_1 = 26 \text{ кНМ}$, $M_2 = 75 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.26.

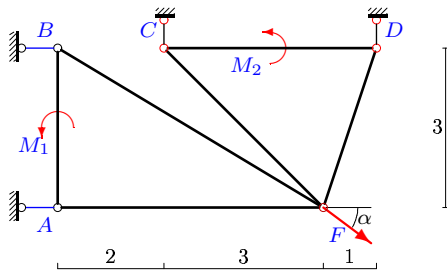
112



$F = 5 \text{ кН}$, $M_1 = 20 \text{ кНМ}$, $M_2 = 78 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.27.

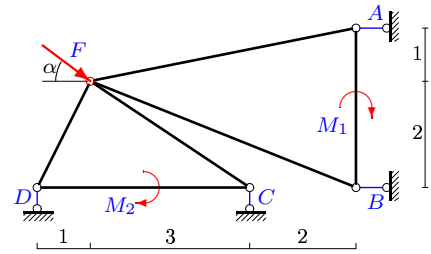
112



$F = 10 \text{ кН}$, $M_1 = 3 \text{ кНМ}$, $M_2 = 6 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.28.

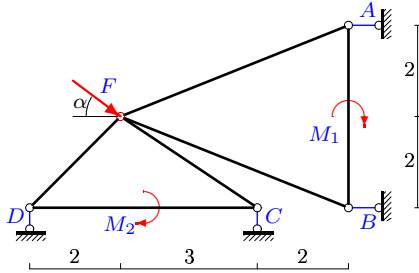
112



$F = 5 \text{ кН}$, $M_1 = 10 \text{ кНМ}$, $M_2 = 13 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.29.

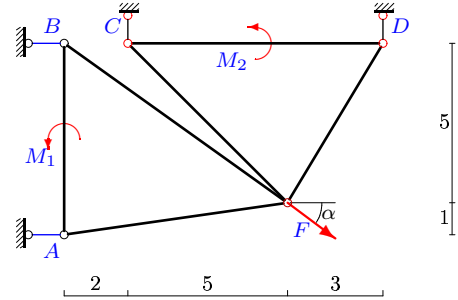
112



$F = 5 \text{ кН}$, $M_1 = 16 \text{ кНМ}$, $M_2 = 14 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.30.

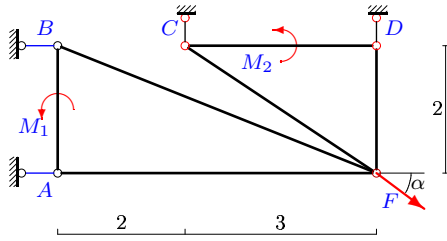
112



$F = 25 \text{ кН}$, $M_1 = 32 \text{ кНМ}$, $M_2 = 19 \text{ кНМ}$,
 $\cos \alpha = 0,8$.

Задача 24.31.

112



$F = 10$ кН, $M_1 = 4$ кНм, $M_2 = 9$ кНм,
 $\cos \alpha = 0,8$.

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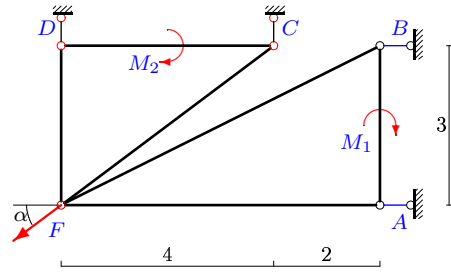
Ответы.

Простая составная конструкция

№	X_A	Y_A	X_B	Y_B	Y_C	M_B	Y_D	M
1	9	-	-1	-	-3	-	-3	
2	-3	-	-1	-	-1	-	4	
3	6	-	-2	-	5	-	-8	
4	2	-	2	-	-1	-	4	
5	-14	-	2	-	2	-	7	
6	-14	-	2	-	-5	-	-4	
7	21	-	-1	-	10	-	5	
8	-2	-	-2	-	-4	-	7	
9	-5	-	1	-	1	-	2	
10	3	-	1	-	0	-	-3	
11	-6	-	-2	-	1	-	5	
12	1	-	3	-	0	-	3	
13	2	-	2	-	2	-	-5	
14	-22	-	2	-	7	-	8	
15	-14	-	-2	-	5	-	7	
16	5	-	-1	-	0	-	3	
17	6	-	2	-	-9	-	3	
18	-18	-	2	-	7	-	5	
19	-9	-	1	-	-2	-	-4	
20	-6	-	2	-	2	-	-5	
21	-3	-	-1	-	4	-	-1	
22	-14	-	-2	-	-3	-	-9	
23	-13	-	-3	-	5	-	7	
24	-5	-	1	-	-5	-	2	
25	-6	-	2	-	-9	-	6	
26	6	-	-2	-	9	-	-6	
27	-9	-	1	-	3	-	3	
28	-6	-	2	-	4	-	-1	
29	-6	-	2	-	4	-	-1	
30	-22	-	2	-	8	-	7	
31	-10	-	2	-	3	-	3	
32	21	-	-1	-	11	-	4	

Задача 24.32.

112



$F = 25$ кН, $M_1 = 3$ кНм, $M_2 = 44$ кНм,
 $\cos \alpha = 0,8$.

04-May-23

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