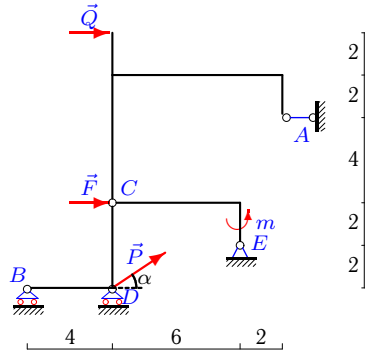


Составная конструкция 3 тел

Определить реакции опор конструкции (в кН), состоящей из трех тел, соединенных в точке C шарниром. Размеры указаны в метрах.

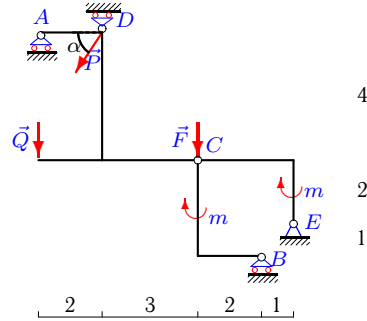
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.67.)

Задача 16.1.



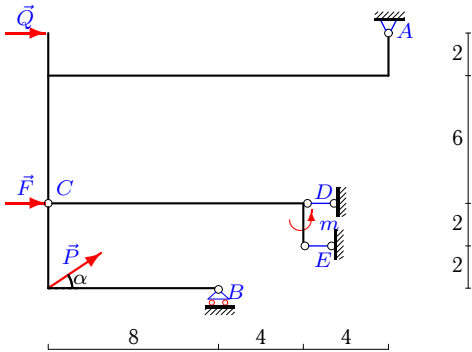
$P = 7$ кН, $Q = 6$ кН, $F = 4$ кН,
 $m = 5$ кНм, $\alpha = 30^\circ$.

Задача 16.2.



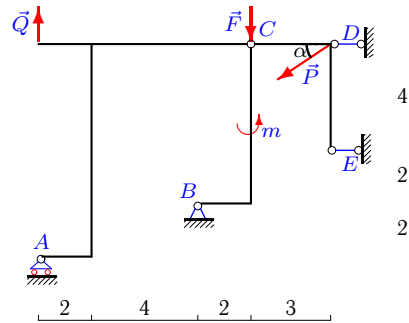
$P = 7$ кН, $Q = 1$ кН, $F = 6$ кН,
 $m = 6$ кНм, $\alpha = 60^\circ$.

Задача 16.3.



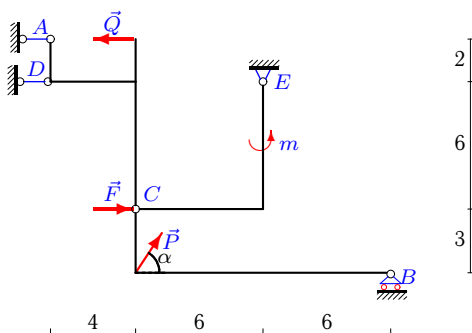
$P = 8$ кН, $Q = 7$ кН, $F = 7$ кН,
 $m = 6$ кНм, $\alpha = 30^\circ$.

Задача 16.4.



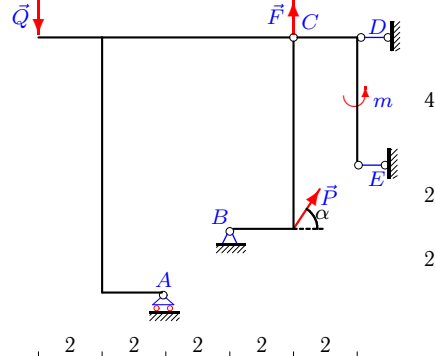
$P = 4$ кН, $Q = 1$ кН, $F = 5$ кН,
 $m = 5$ кНм, $\alpha = 30^\circ$.

Задача 16.5.



$P = 6$ кН, $Q = 2$ кН, $F = 6$ кН,
 $m = 4$ кНм, $\alpha = 60^\circ$.

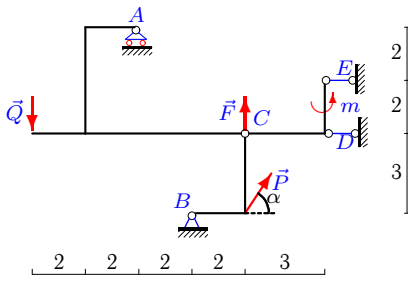
Задача 16.6.



$P = 6$ кН, $Q = 2$ кН, $F = 5$ кН,
 $m = 5$ кНм, $\alpha = 60^\circ$.

Задача 16.7.

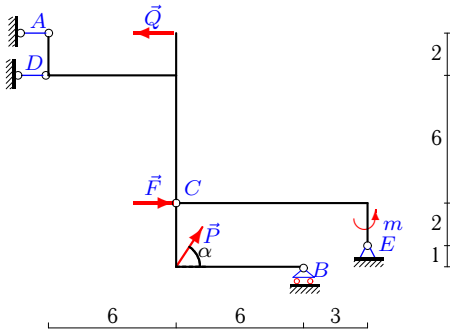
4



$P = 5 \text{ кН}, Q = 7 \text{ кН}, F = 5 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.9.

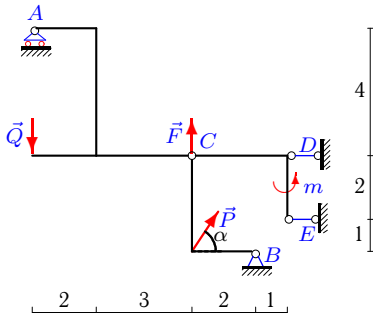
4



$P = 9 \text{ кН}, Q = 6 \text{ кН}, F = 6 \text{ кН},$
 $m = 6 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.11.

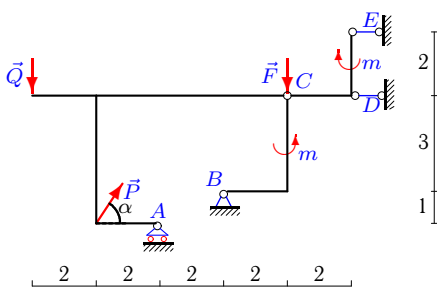
4



$P = 9 \text{ кН}, Q = 4 \text{ кН}, F = 5 \text{ кН},$
 $m = 6 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.13.

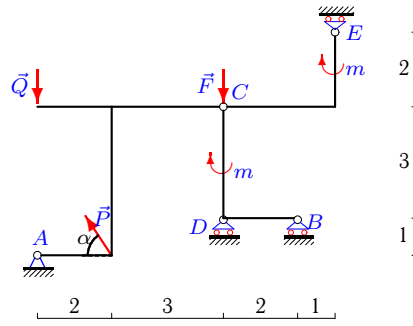
4



$P = 4 \text{ кН}, Q = 4 \text{ кН}, F = 5 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.8.

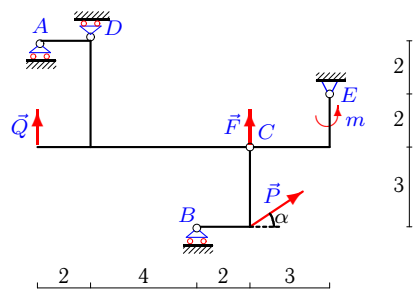
4



$P = 3 \text{ кН}, Q = 9 \text{ кН}, F = 9 \text{ кН},$
 $m = 4 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.10.

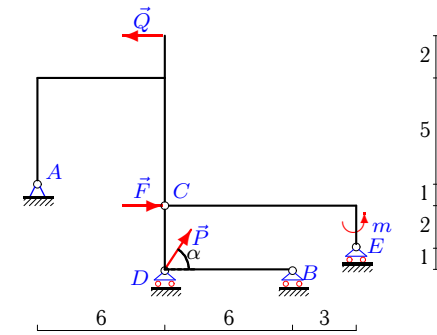
4



$P = 2 \text{ кН}, Q = 9 \text{ кН}, F = 6 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.12.

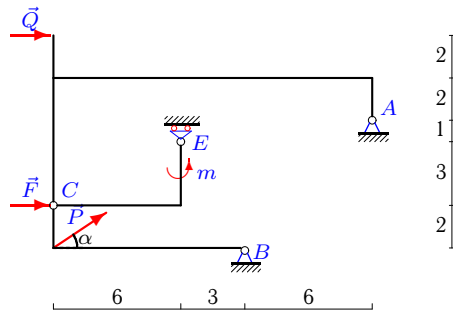
4



$P = 3 \text{ кН}, Q = 7 \text{ кН}, F = 9 \text{ кН},$
 $m = 6 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.14.

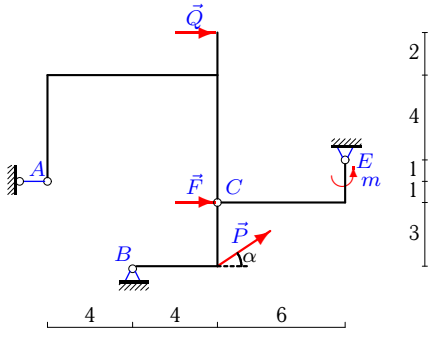
4



$P = 3 \text{ кН}, Q = 3 \text{ кН}, F = 3 \text{ кН},$
 $m = 4 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.15.

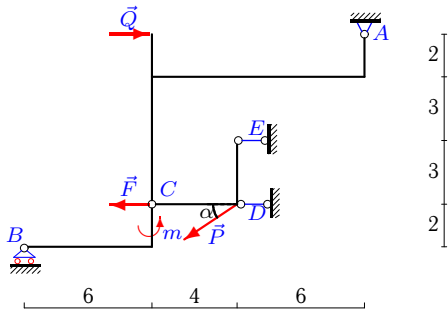
4



$P = 2 \text{ кН}, Q = 5 \text{ кН}, F = 1 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.17.

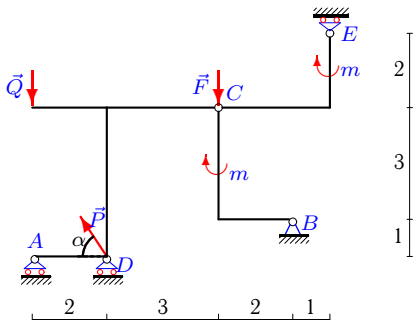
4



$P = 7 \text{ кН}, Q = 4 \text{ кН}, F = 7 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.19.

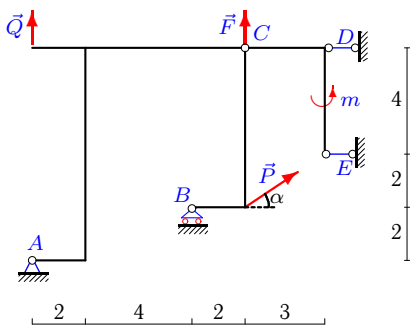
4



$P = 6 \text{ кН}, Q = 8 \text{ кН}, F = 8 \text{ кН},$
 $m = 4 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.21.

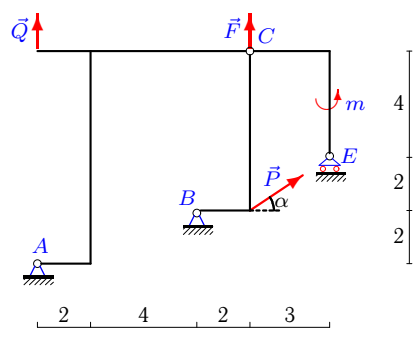
4



$P = 9 \text{ кН}, Q = 2 \text{ кН}, F = 7 \text{ кН},$
 $m = 5 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.16.

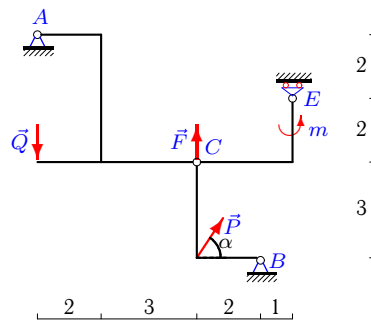
4



$P = 2 \text{ кН}, Q = 7 \text{ кН}, F = 3 \text{ кН},$
 $m = 5 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.18.

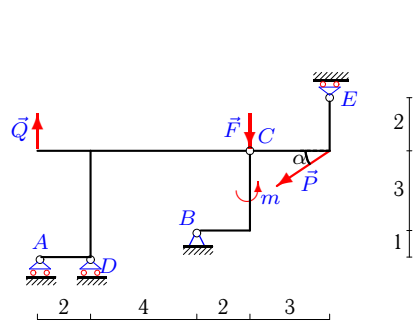
4



$P = 8 \text{ кН}, Q = 6 \text{ кН}, F = 3 \text{ кН},$
 $m = 4 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.20.

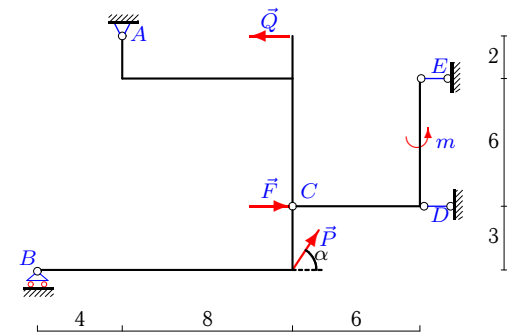
4



$P = 8 \text{ кН}, Q = 9 \text{ кН}, F = 8 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 30^\circ.$

Задача 16.22.

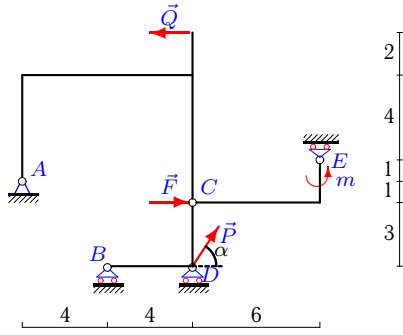
4



$P = 6 \text{ кН}, Q = 2 \text{ кН}, F = 7 \text{ кН},$
 $m = 3 \text{ кНм}, \alpha = 60^\circ.$

Задача 16.23.

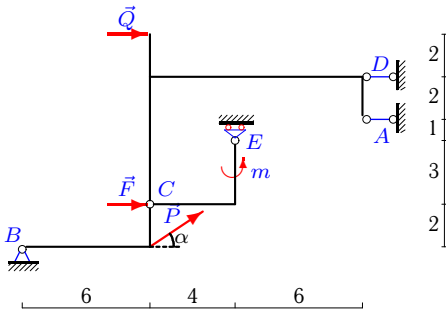
4



$P = 3 \text{ кН}$, $Q = 8 \text{ кН}$, $F = 9 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 60^\circ$.

Задача 16.25.

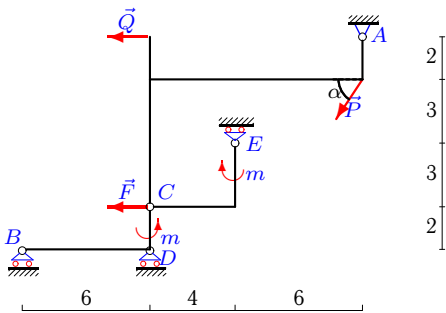
4



$P = 3 \text{ кН}$, $Q = 5 \text{ кН}$, $F = 8 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 30^\circ$.

Задача 16.27.

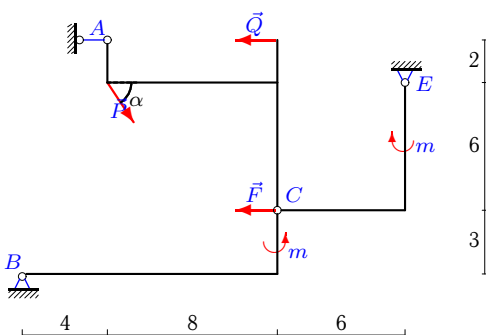
4



$P = 4 \text{ кН}$, $Q = 3 \text{ кН}$, $F = 9 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 60^\circ$.

Задача 16.29.

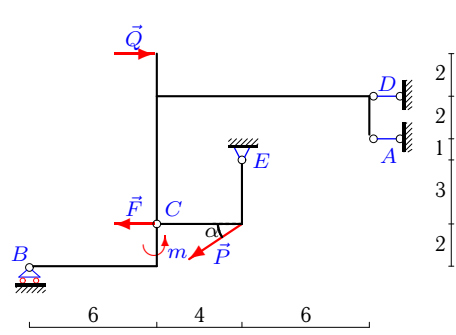
4



$P = 9 \text{ кН}$, $Q = 1 \text{ кН}$, $F = 1 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 60^\circ$.

Задача 16.24.

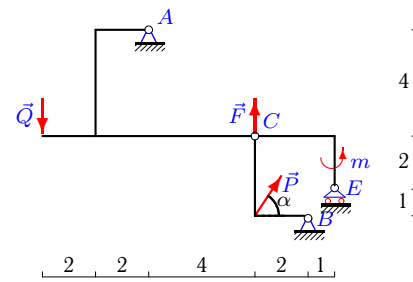
4



$P = 4 \text{ кН}$, $Q = 8 \text{ кН}$, $F = 6 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 30^\circ$.

Задача 16.26.

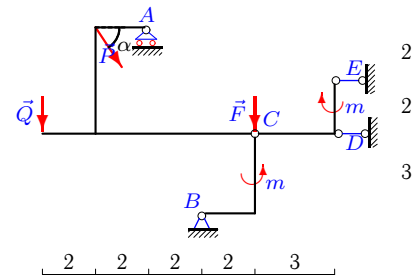
4



$P = 6 \text{ кН}$, $Q = 1 \text{ кН}$, $F = 3 \text{ кН}$,
 $m = 6 \text{ кНМ}$, $\alpha = 60^\circ$.

Задача 16.28.

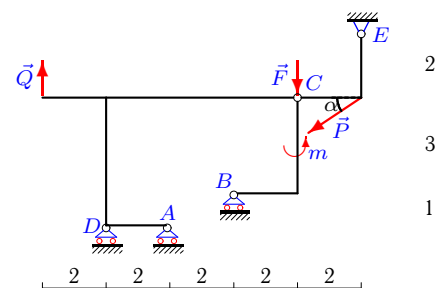
4



$P = 3 \text{ кН}$, $Q = 9 \text{ кН}$, $F = 5 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 60^\circ$.

Задача 16.30.

4



$P = 4 \text{ кН}$, $Q = 9 \text{ кН}$, $F = 6 \text{ кН}$,
 $m = 3 \text{ кНМ}$, $\alpha = 30^\circ$.

Составная конструкция 3 тел

№	X_A	Y_A	X_B	Y_B	X_E	Y_E	X_D	Y_D
1	-12.000	—	—	6.062	-4.062	0.520	—	-10.082
2	—	3.000	—	3.000	3.500	-0.333	—	7.395
3	-8.071	-0.535	—	-3.464	-3.000	—	-9.856	—
4	—	-1.000	1.500	7.000	1.500	—	0.464	—
5	17.661	—	—	-0.750	-3.779	-4.446	-20.882	—
6	—	4.000	-7.065	-12.196	-1.250	—	5.315	—
7	—	14.000	-13.386	-16.330	1.500	—	9.386	—
8	1.500	7.441	—	2.000	—	1.333	—	4.627
9	103.347	—	—	-2.250	21.949	-5.544	-129.796	—
10	—	13.330	—	2.598	-1.732	-2.154	—	-29.773
11	—	4.000	4.029	-12.794	-3.000	—	-5.529	—
12	-3.500	9.916	—	-0.750	—	-0.666	—	-11.098
13	—	4.803	-0.512	0.732	-1.500	—	0.012	—
14	-7.704	-0.454	-0.893	-0.378	—	-0.666	—	—
15	-40.000	—	-30.132	-21.300	62.400	20.300	—	—
16	1.166	-5.833	-2.898	-3.500	—	-1.666	—	—
17	-0.250	3.000	—	0.500	-4.666	—	13.978	—
18	-12.278	15.822	8.278	-18.417	—	-1.333	—	—
19	—	-11.750	3.000	-2.500	—	1.333	—	23.720
20	—	2.676	6.928	11.892	—	4.000	—	-15.569
21	-34.882	-36.882	—	23.382	-1.250	—	28.338	—
22	7.946	-5.946	—	0.750	0.500	—	-16.446	—
23	-2.500	8.312	—	1.125	—	-0.500	—	-11.535
24	38.392	—	—	0.500	-0.666	1.500	-36.261	—
25	-12.250	—	-4.848	-0.750	—	-0.750	1.500	—
26	-14.392	16.392	11.392	-21.588	—	-2.000	—	—
27	14.000	11.064	—	0.500	—	0.750	—	-8.850
28	—	20.397	-3.532	-3.799	-1.500	—	3.532	—
29	5.419	—	-19.951	-4.737	12.032	12.532	—	—
30	—	12.107	—	1.500	3.464	5.464	—	-20.071