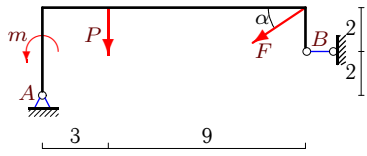


# Равновесие рамы

Определить реакции опор рамы;  $\cos \alpha = 0.8$ .

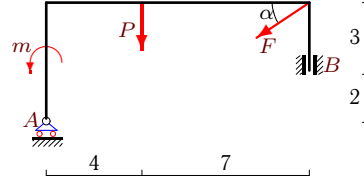
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.- М.:ФИЗМАТЛИТ, 2008.- 384 с. (с.67.)

**Задача 29.1.**



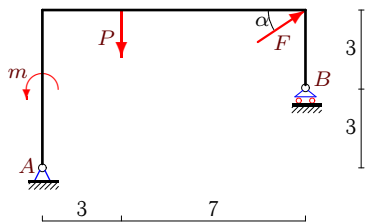
$F = 5 \text{ кН}, P = 2 \text{ кН}, m = 6 \text{ кНм}.$

**Задача 29.2.**



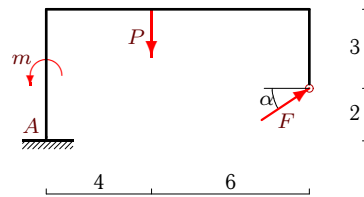
$F = 20 \text{ кН}, P = 3 \text{ кН}, m = 6 \text{ кНм}.$

**Задача 29.3.**



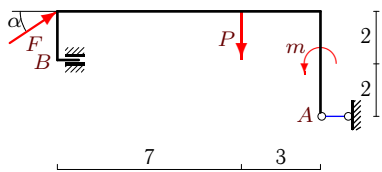
$F = 50 \text{ кН}, P = 1 \text{ кН}, m = 3 \text{ кНм}.$

**Задача 29.4.**



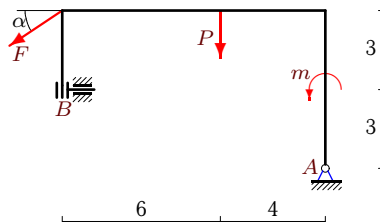
$F = 15 \text{ кН}, P = 2 \text{ кН}, m = 4 \text{ кНм}.$

**Задача 29.5.**



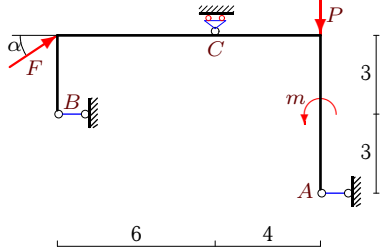
$F = 25 \text{ кН}, P = 2 \text{ кН}, m = 4 \text{ кНм}.$

**Задача 29.6.**



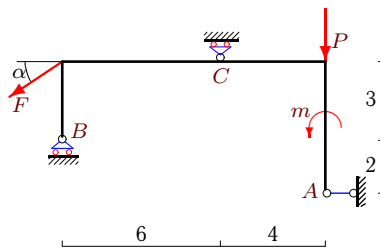
$F = 45 \text{ кН}, P = 4 \text{ кН}, m = 8 \text{ кНм}.$

**Задача 29.7.**



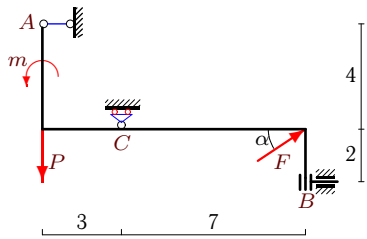
$F = 15 \text{ кН}, P = 2 \text{ кН}, m = 8 \text{ кНм}.$

**Задача 29.8.**



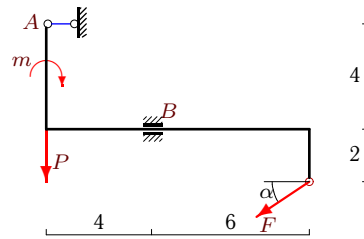
$F = 15 \text{ кН}, P = 1 \text{ кН}, m = 4 \text{ кНм}.$

**Задача 29.9.**



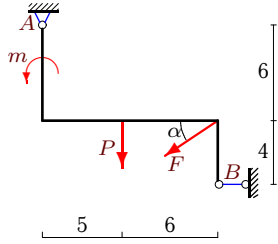
$F = 15 \text{ кН}, P = 2 \text{ кН}, m = 8 \text{ кНм}.$

**Задача 29.10.**



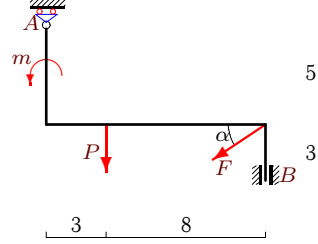
$F = 40 \text{ кН}, P = 24 \text{ кН}, m = 7 \text{ кНм}.$

**Задача 29.11.**



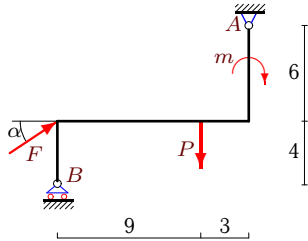
$F = 50 \text{ кН}, P = 2 \text{ кН}, m = 10 \text{ кНм.}$

**Задача 29.12.**



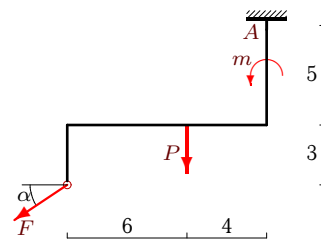
$F = 5 \text{ кН}, P = 1 \text{ кН}, m = 2 \text{ кНм.}$

**Задача 29.13.**



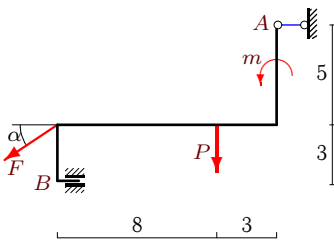
$F = 30 \text{ кН}, P = 1 \text{ кН}, m = 3 \text{ кНм.}$

**Задача 29.14.**



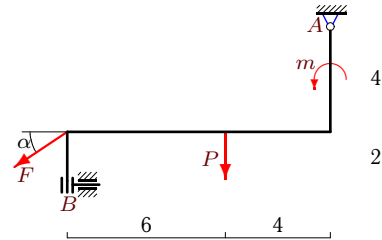
$F = 25 \text{ кН}, P = 4 \text{ кН}, m = 4 \text{ кНм.}$

**Задача 29.15.**



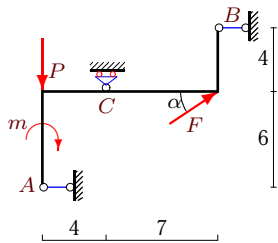
$F = 35 \text{ кН}, P = 1 \text{ кН}, m = 4 \text{ кНм.}$

**Задача 29.16.**



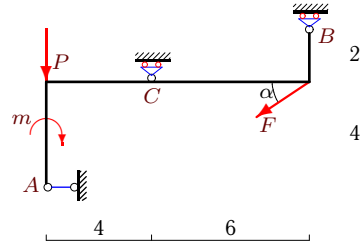
$F = 35 \text{ кН}, P = 5 \text{ кН}, m = 6 \text{ кНм.}$

**Задача 29.17.**



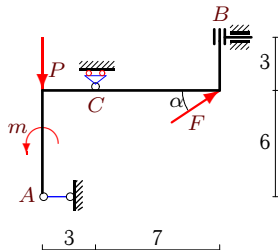
$F = 50 \text{ кН}, P = 1 \text{ кН}, m = 4 \text{ кНм.}$

**Задача 29.18.**



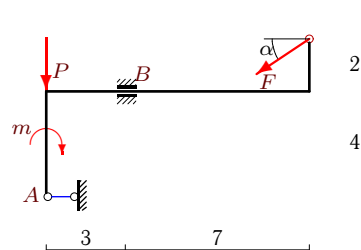
$F = 30 \text{ кН}, P = 5 \text{ кН}, m = 20 \text{ кНм.}$

**Задача 29.19.**



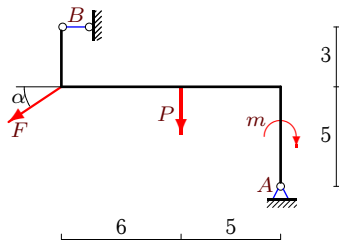
$F = 25 \text{ кН}, P = 1 \text{ кН}, m = 10 \text{ кНм.}$

**Задача 29.20.**



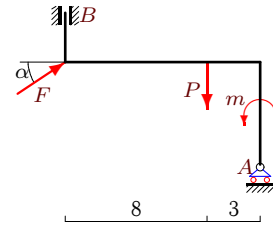
$F = 40 \text{ кН}, P = 18 \text{ кН}, m = 7 \text{ кНм.}$

**Задача 29.21.**



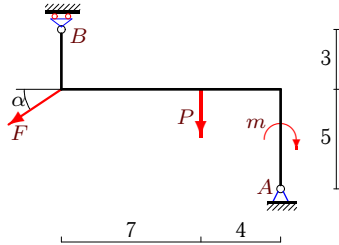
$F = 40 \text{ кН}, P = 2 \text{ кН}, m = 10 \text{ кНм}.$

**Задача 29.22.**



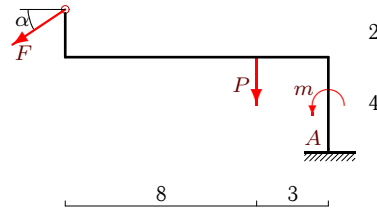
$F = 5 \text{ кН}, P = 1 \text{ кН}, m = 7 \text{ кНм}.$

**Задача 29.23.**



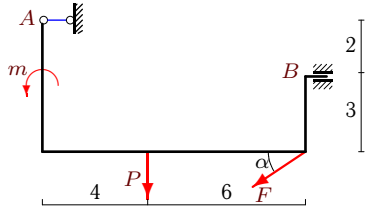
$F = 55 \text{ кН}, P = 2 \text{ кН}, m = 8 \text{ кНм}.$

**Задача 29.24.**



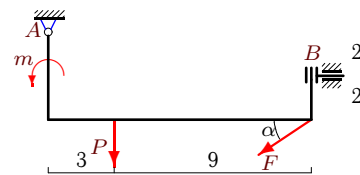
$F = 30 \text{ кН}, P = 3 \text{ кН}, m = 5 \text{ кНм}.$

**Задача 29.25.**



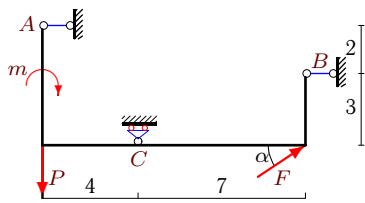
$F = 40 \text{ кН}, P = 4 \text{ кН}, m = 5 \text{ кНм}.$

**Задача 29.26.**



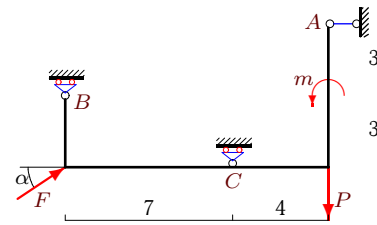
$F = 60 \text{ кН}, P = 3 \text{ кН}, m = 16 \text{ кНм}.$

**Задача 29.27.**



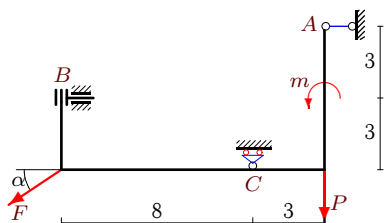
$F = 10 \text{ кН}, P = 4 \text{ кН}, m = 16 \text{ кНм}.$

**Задача 29.28.**



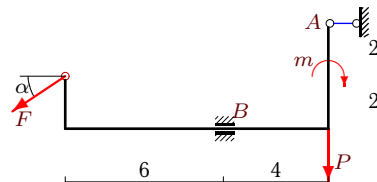
$F = 35 \text{ кН}, P = 4 \text{ кН}, m = 16 \text{ кНм}.$

**Задача 29.29.**



$F = 60 \text{ кН}, P = 2 \text{ кН}, m = 17 \text{ кНм}.$

**Задача 29.30.**



$F = 25 \text{ кН}, P = 30 \text{ кН}, m = 7 \text{ кНм}.$

**Равновесие рамы**

№	$X_A$	$Y_A$	$M_A$	$X_B$	$Y_B$	$M_B$	$Y_C$
1	14	5	—	-10	—	—	—
2	—	15	—	16	—	90	—
3	-40	-23	—	—	-6	—	—
4	-12	-7	-62	—	—	—	—
5	-20	—	—	—	-13	90	—
6	36	31	—	—	—	-510	—
7	30	—	—	-42	—	—	-7
8	12	—	—	—	19	—	-9
9	-12	—	—	—	—	-125	-7
10	32	—	—	—	48	247	—
11	-17	32	—	57	—	—	—
12	—	4	—	4	—	22	—
13	-24	-11	—	—	-6	—	—
14	20	19	-10	—	—	—	—
15	28	—	—	—	22	144	—
16	28	26	—	—	—	-124	—
17	-37	—	—	-3	—	—	-29
18	24	—	—	—	2	—	21
19	-20	—	—	—	—	2	-14
20	32	—	—	—	42	-71	—
21	-21	26	—	53	—	—	—
22	—	-2	—	-4	—	11	—
23	44	-18	—	—	53	—	—
24	24	21	-356	—	—	—	—
25	32	—	—	—	28	131	—
26	48	39	—	—	—	617	—
27	33	—	—	-41	—	—	-2
28	-28	—	—	—	3	—	-20
29	48	—	—	—	—	-11	38
30	20	—	—	—	45	77	—