

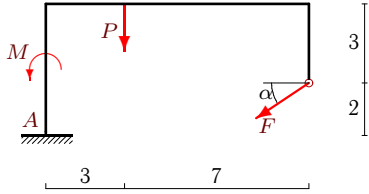
Равновесие рамы

Определить реакции опор рамы.

Кирсанов М.Н. Задачи по теоретической механике с решениями в **Maple 11.** – М.: ФИЗМАТЛИТ, 2010. – 264 с. (с.10)

Задача S29.1.

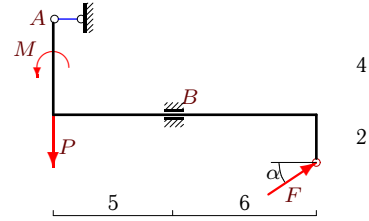
5



$$F = 25 \text{ кН}, P = 3 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.2.

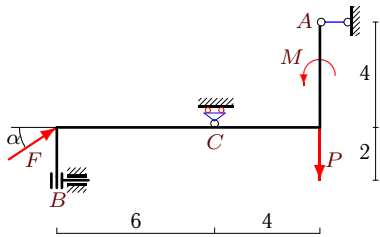
5



$$F = 15 \text{ кН}, P = 24 \text{ кН}, M = 10 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.3.

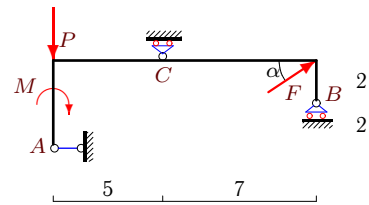
5



$$F = 15 \text{ кН}, P = 3 \text{ кН}, M = 8 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.4.

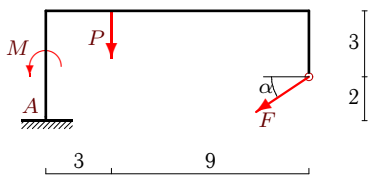
5



$$F = 35 \text{ кН}, P = 4 \text{ кН}, M = 20 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.5.

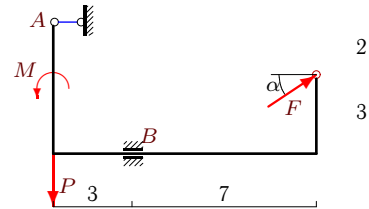
5



$$F = 25 \text{ кН}, P = 3 \text{ кН}, M = 8 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.6.

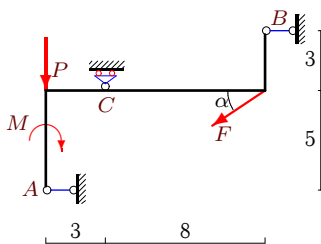
5



$$F = 10 \text{ кН}, P = 3 \text{ кН}, M = 5 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.7.

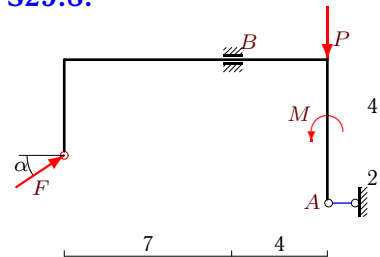
5



$$F = 40 \text{ кН}, P = 1 \text{ кН}, M = 3 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.8.

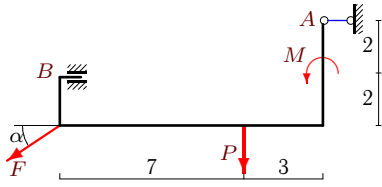
5



$$F = 25 \text{ кН}, P = 6 \text{ кН}, M = 14 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S29.9.

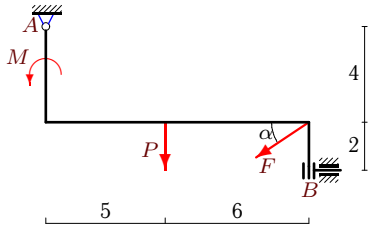
5



$F = 60 \text{ кН}, P = 3 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.11.

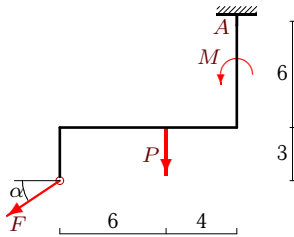
5



$F = 60 \text{ кН}, P = 5 \text{ кН}, M = 11 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.13.

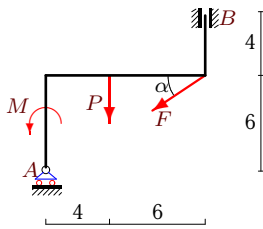
5



$F = 50 \text{ кН}, P = 3 \text{ кН}, M = 5 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.15.

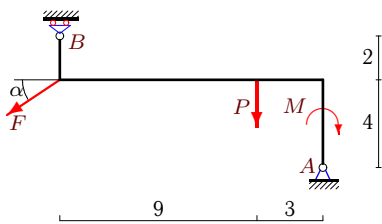
5



$F = 20 \text{ кН}, P = 2 \text{ кН}, M = 5 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.17.

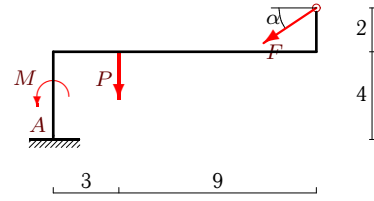
5



$F = 30 \text{ кН}, P = 1 \text{ кН}, M = 3 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.10.

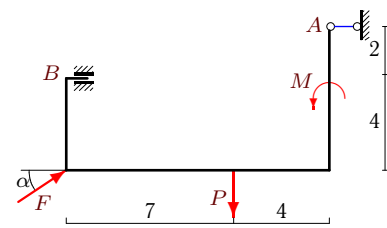
5



$F = 20 \text{ кН}, P = 4 \text{ кН}, M = 7 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.12.

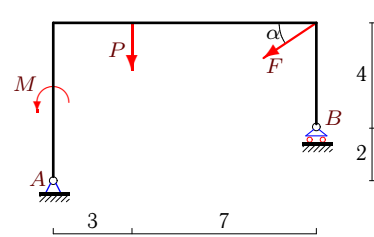
5



$F = 35 \text{ кН}, P = 1 \text{ кН}, M = 9 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.14.

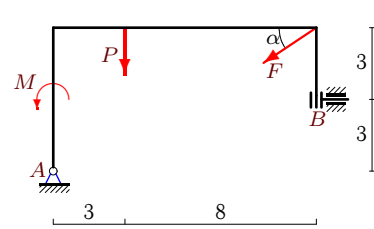
5



$F = 25 \text{ кН}, P = 1 \text{ кН}, M = 3 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.16.

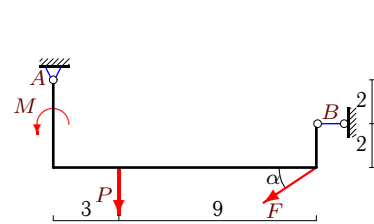
5



$F = 80 \text{ кН}, P = 2 \text{ кН}, M = 13 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.18.

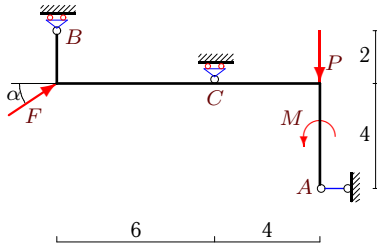
5



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 3 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.19.

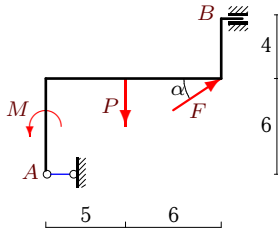
5



$F = 15 \text{ кН}, P = 1 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.21.

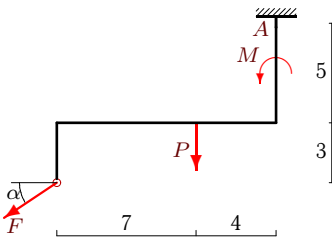
5



$F = 35 \text{ кН}, P = 2 \text{ кН}, M = 9 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.23.

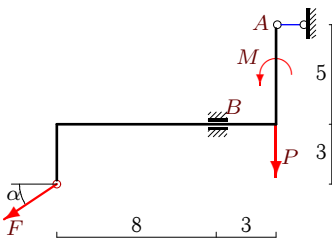
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$F = 40 \text{ кН}, P = 3 \text{ кН}, M = 6 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.25.

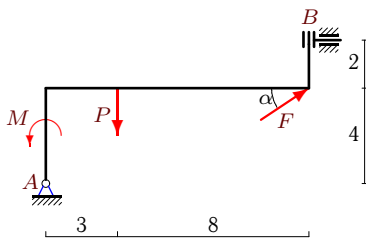
5



$F = 30 \text{ кН}, P = 18 \text{ кН}, M = 7 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.27.

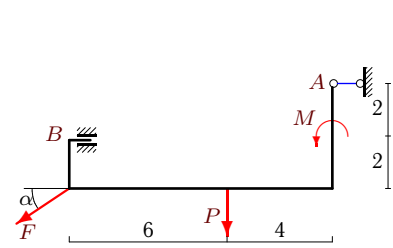
5



$F = 25 \text{ кН}, P = 2 \text{ кН}, M = 11 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.20.

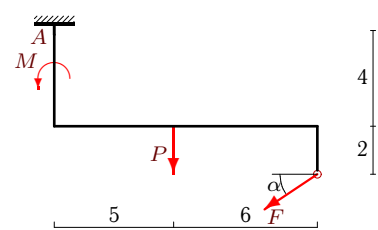
5



$F = 35 \text{ кН}, P = 5 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.22.

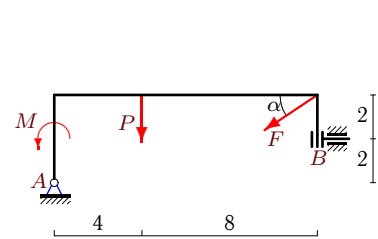
5



$F = 30 \text{ кН}, P = 5 \text{ кН}, M = 5 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.24.

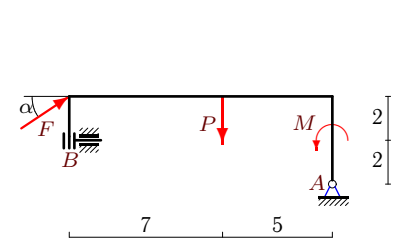
5



$F = 15 \text{ кН}, P = 1 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.26.

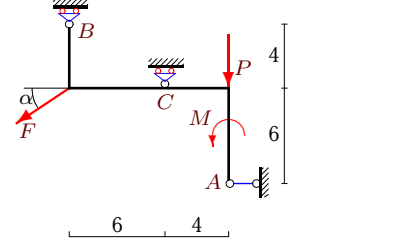
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$F = 25 \text{ кН}, P = 4 \text{ кН}, M = 16 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.28.

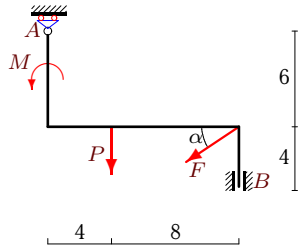
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$F = 30 \text{ кН}, P = 1 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.29.

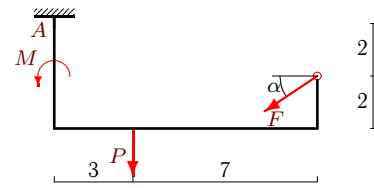
5



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 3 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.30.

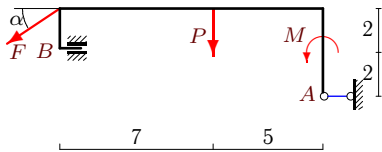
5



$F = 10 \text{ кН}, P = 1 \text{ кН}, M = 1 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.31.

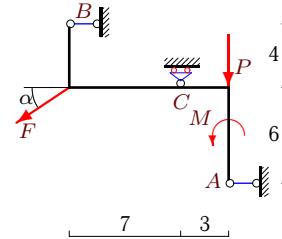
5



$F = 60 \text{ кН}, P = 5 \text{ кН}, M = 10 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.32.

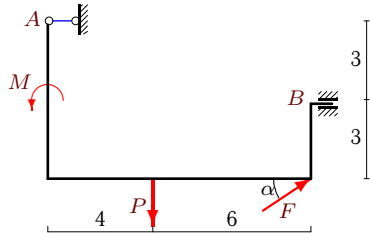
5



$F = 50 \text{ кН}, P = 2 \text{ кН}, M = 6 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.33.

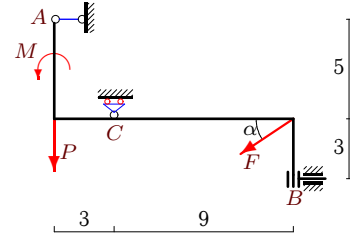
5



$F = 35 \text{ кН}, P = 2 \text{ кН}, M = 6 \text{ кНм}, \cos \alpha = 0.8.$

Задача S29.34.

5



$F = 50 \text{ кН}, P = 2 \text{ кН}, M = 23 \text{ кНм}, \cos \alpha = 0.8.$

S29 Ответы.
Равновесие рамы

03.12.2011

№	X_A	Y_A	M_A	X_B	Y_B	M_B	Y_C
1	20	18	115	—	—	—	—
2	-12	—	—	—	15	-256	—
3	-12	—	—	—	—	10	-6
4	-28	—	—	—	-5	—	-12
5	20	18	141	—	—	—	—
6	-8	—	—	—	-3	-72	—
7	36	—	—	-4	—	—	25
8	-20	—	—	—	-9	155	—
9	48	—	—	—	39	209	—
10	16	16	53	—	—	—	—
11	48	41	—	—	—	602	—
12	-28	—	—	—	-20	-170	—
13	40	33	43	—	—	—	—
14	20	13	—	—	3	—	—
15	—	14	—	16	—	187	—
16	64	50	—	—	—	137	—
17	24	-7	—	—	26	—	—
18	-22	4	—	26	—	—	—
19	-12	—	—	—	-17	—	9
20	28	—	—	—	26	138	—
21	-28	—	—	—	-19	147	—
22	24	23	362	—	—	—	—
23	32	27	-26	—	—	—	—
24	12	10	—	—	—	60	—
25	24	—	—	—	36	95	—
26	-20	-11	—	—	—	224	—
27	-20	-13	—	—	—	-90	—
28	24	—	—	—	42	—	-23
29	—	4	—	4	—	21	—
30	8	7	78	—	—	—	—
31	48	—	—	—	41	-167	—
32	-5	—	—	45	—	—	32
33	-28	—	—	—	-19	-186	—
34	40	—	—	—	—	441	32

S29 файл о29s5A