

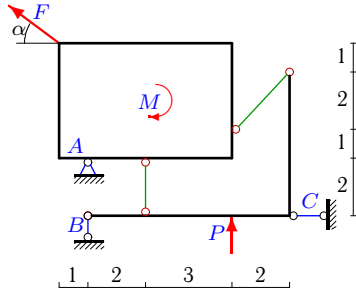
Конструкция из пластины и уголка

Конструкция состоит из прямоугольной пластины и жесткого уголка, изогнутого под прямым углом. Тела соединены двумя невесомыми стержнями. Определить реакции опор конструкции (в кН). Размеры даны в метрах.

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

Задача S31.1.

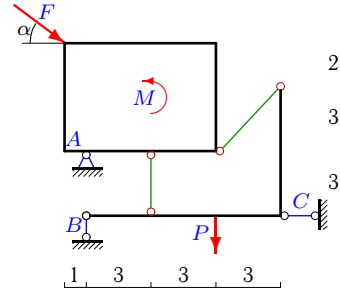
9



$$F = 5 \text{ кН}, P = 2 \text{ кН}, M = 13 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.2.

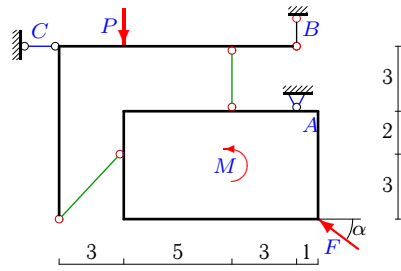
9



$$F = 20 \text{ кН}, P = 15 \text{ кН}, M = 68 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.3.

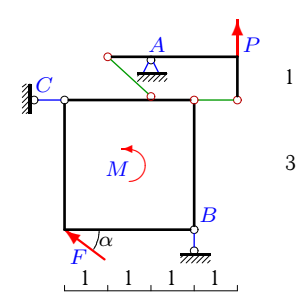
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$$F = 15 \text{ кН}, P = 12 \text{ кН}, M = 51 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.4.

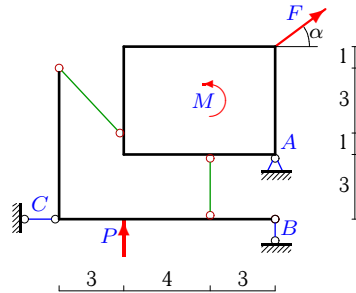
9



$$F = 15 \text{ кН}, P = 2 \text{ кН}, M = 18 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.5.

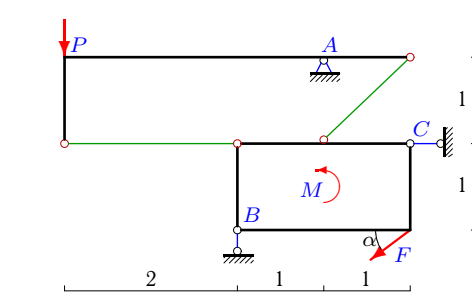
9



$$F = 5 \text{ кН}, P = 6 \text{ кН}, M = 20 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.6.

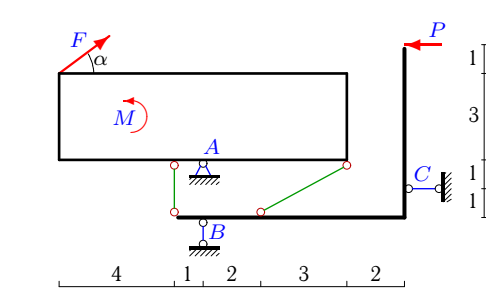
9



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

Задача S31.7.

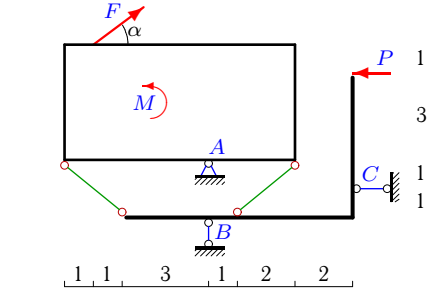
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$$F = 10 \text{ кН}, P = 3 \text{ кН}, M = 52 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.8.

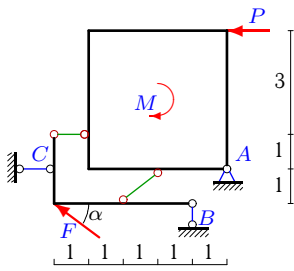
9



$$F = 5 \text{ кН}, P = 4 \text{ кН}, M = 25 \text{ кНм}, \cos \alpha = 0.8.$$

Задача S31.9.

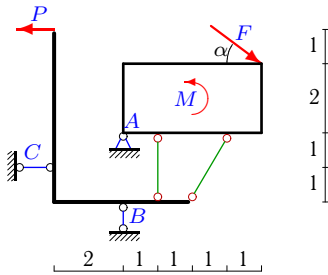
9



$F = 5 \text{ кН}, P = 2 \text{ кН}, M = 8 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.11.

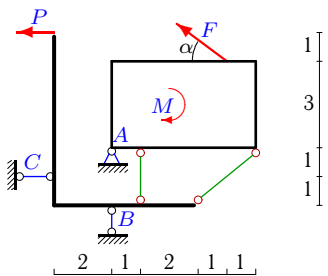
9



$F = 5 \text{ кН}, P = 3 \text{ кН}, M = 21 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.13.

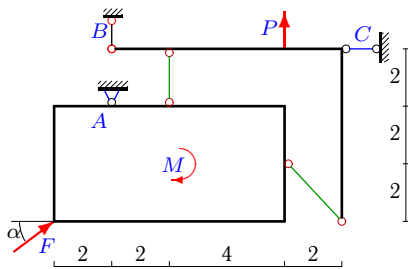
9



$F = 15 \text{ кН}, P = 5 \text{ кН}, M = 70 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.15.

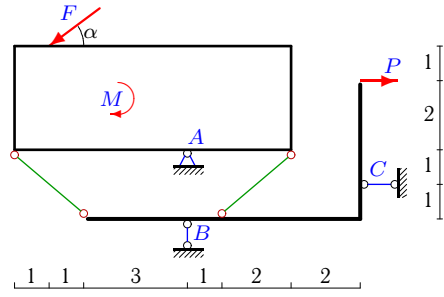
9



$F = 15 \text{ кН}, P = 2 \text{ кН}, M = 30 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.10.

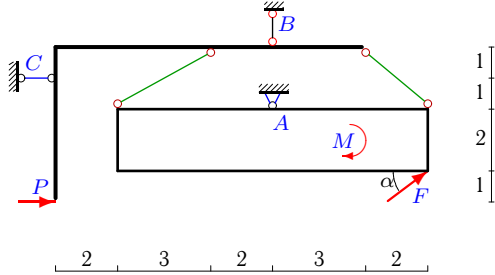
9



$F = 10 \text{ кН}, P = 1 \text{ кН}, M = 50 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.12.

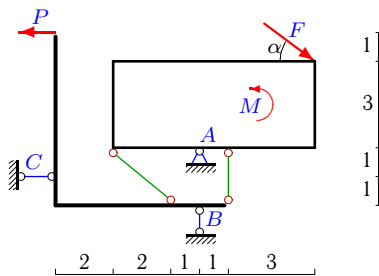
9



$F = 5 \text{ кН}, P = 2 \text{ кН}, M = 24 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.14.

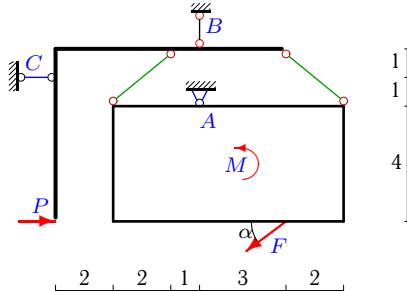
9



$F = 15 \text{ кН}, P = 1 \text{ кН}, M = 74 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.16.

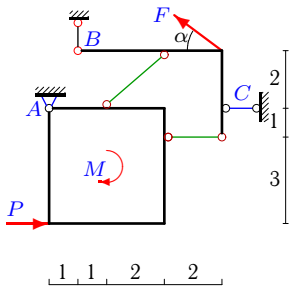
9



$F = 20 \text{ кН}, P = 4 \text{ кН}, M = 97 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.17.

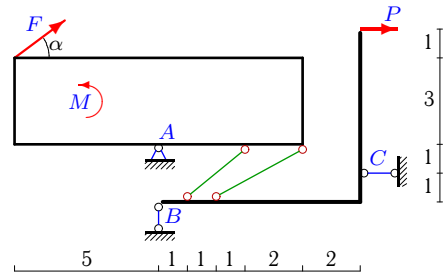
9



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 4 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.18.

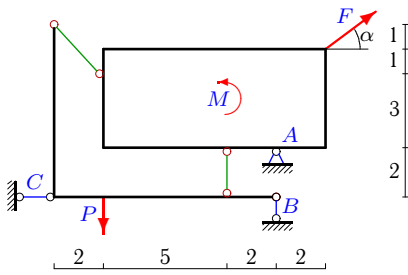
9



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 26 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.19.

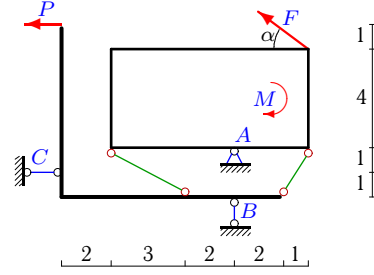
9



$F = 20 \text{ кН}, P = 6 \text{ кН}, M = 40 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.20.

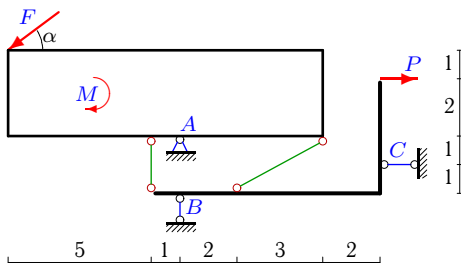
9



$F = 5 \text{ кН}, P = 3 \text{ кН}, M = 22 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.21.

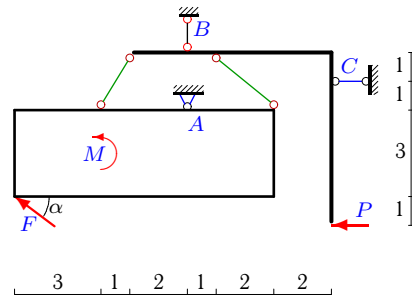
9



$F = 15 \text{ кН}, P = 2 \text{ кН}, M = 92 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.22.

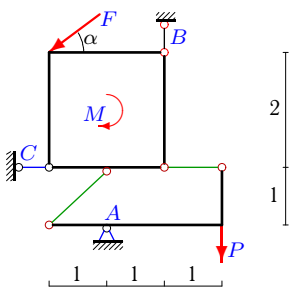
9



$F = 10 \text{ кН}, P = 1 \text{ кН}, M = 61 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.23.

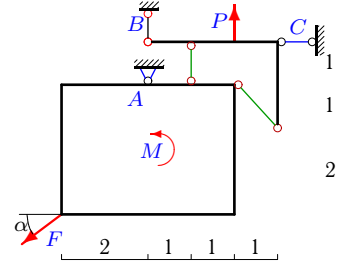
9



$F = 15 \text{ кН}, P = 11 \text{ кН}, M = 9 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.24.

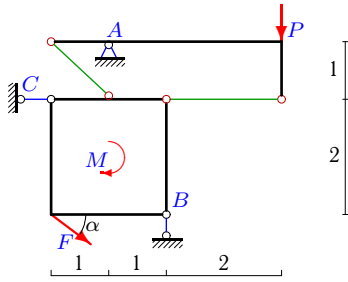
9



$F = 20 \text{ кН}, P = 1 \text{ кН}, M = 24 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.25.

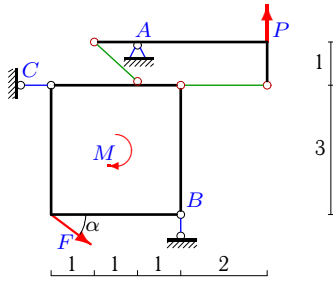
9



$F = 25 \text{ кН}, P = 1 \text{ кН}, M = 15 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.27.

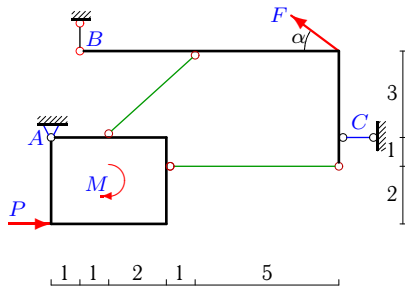
9



$F = 25 \text{ кН}, P = 2 \text{ кН}, M = 30 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.29.

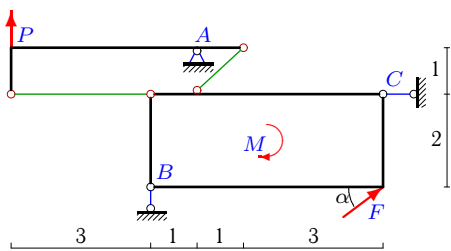
9



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

Задача S31.31.

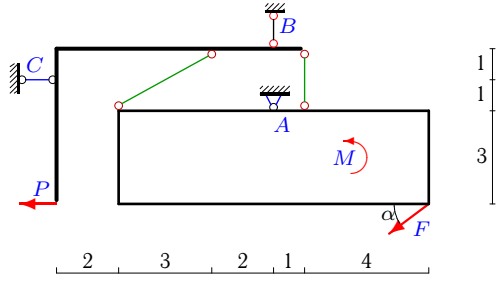
9



$F = 15 \text{ кН}, P = 4 \text{ кН}, M = 36 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.26.

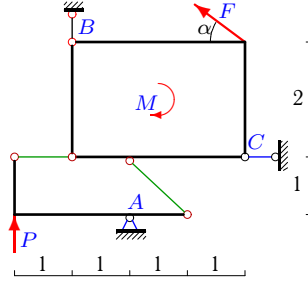
9



$F = 15 \text{ кН}, P = 2 \text{ кН}, M = 79 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.28.

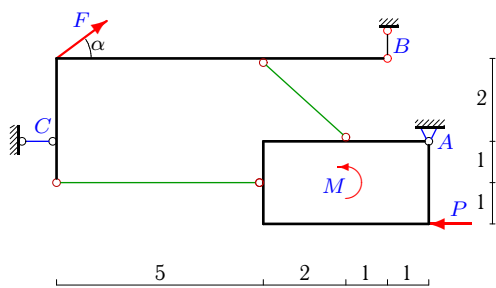
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$F = 5 \text{ кН}, P = 3 \text{ кН}, M = 6 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.30.

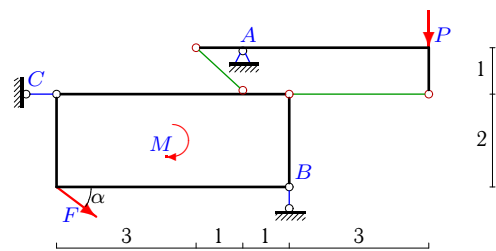
9



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 2 \text{ кНм}, \cos \alpha = 0.8.$

Задача S31.32.

9



$F = 5 \text{ кН}, P = 1 \text{ кН}, M = 12 \text{ кНм}, \cos \alpha = 0.8.$

S31 Ответы.
Конструкция из пластины и уголка

03.12.2011

№	X_A	Y_A	R_B	R_C
1	9	-8	-3	-5
2	-46	42	15	30
3	-20	23	-20	-32
4	4	-47	-36	-8
5	-18	-17	-8	-14
6	3	8	4	1
7	5	48	54	-10
8	9	52	55	-9
9	-14	16	19	-20
10	3	-12	-18	4
11	9	-48	-51	10
12	-11	-32	29	-5
13	39	-115	-106	22
14	-5	-17	-26	6
15	-18	-15	4	6
16	-1	-59	71	-13
17	-24	23	-26	27
18	-10	-26	-23	5
19	5	9	15	21
20	25	-84	-81	18
21	4	-21	-30	6
22	12	-23	17	-3
23	22	44	-24	10
24	14	10	1	2
25	-3	56	40	17
26	22	47	-38	8
27	6	73	60	26
28	6	-14	8	-2
29	-40	39	-42	43
30	33	32	-35	36
31	-16	-37	-24	4
32	-4	12	8	0

S31 файл o31s9A