Система с односторонней связью

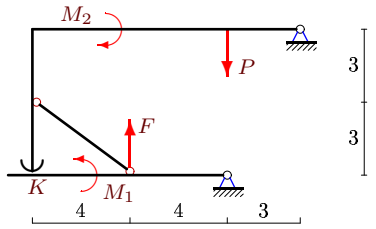
Рама, состоящая из двух частей, содержит одностороннюю связь (гладкая опора в точке K). Размеры на рисунке даны в метрах. Для каких значений силы F система находится в положении равновесия?

Кирсанов М.Н. Теоретическая механика. Сборник задач – М.: Инфра-М, 2014. — 430 с. **ISBN** 978-5-16-010026-5 (с.82)

Кирсанов М.Н. Решения задач по теоретической механике. – М.: Инфра-М, 2015. — 216 с. **ISBN** 978-5-16-010558-1 (с.44)

Задача S-37.1.

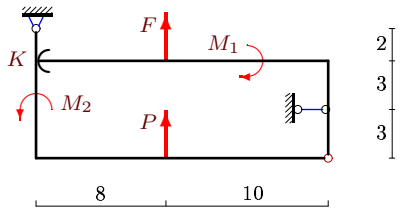
10



$P = 15$ кН, $M_1 = 4$ кНм, $M_2 = 15$ кНм.

Задача S-37.2.

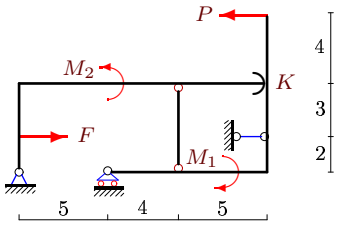
10



$P = 26$ кН, $M_1 = 9$ кНм, $M_2 = 24$ кНм.

Задача S-37.3.

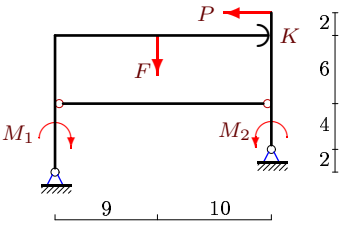
10



$P = 8$ кН, $M_1 = 16$ кНм, $M_2 = 36$ кНм.

Задача S-37.4.

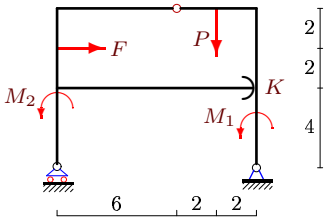
10



$P = 18$ кН, $M_1 = 21$ кНм, $M_2 = 14$ кНм.

Задача S-37.5.

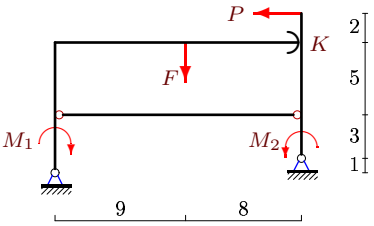
10



$P = 14$ кН, $M_1 = 4$ кНм, $M_2 = 6$ кНм.

Задача S-37.6.

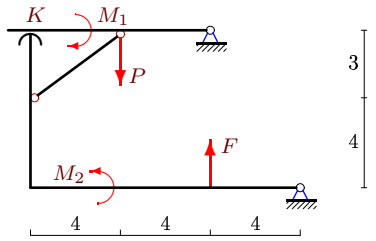
10



$P = 27$ кН, $M_1 = 8$ кНм, $M_2 = 6$ кНм.

Задача S-37.7.

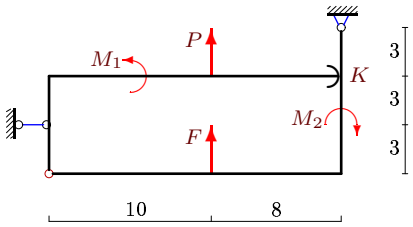
10



$P = 3$ кН, $M_1 = 6$ кНм, $M_2 = 26$ кНм.

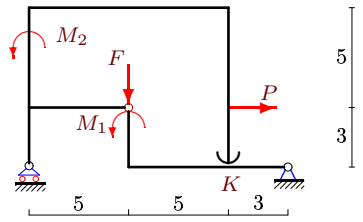
Задача S-37.8.

10



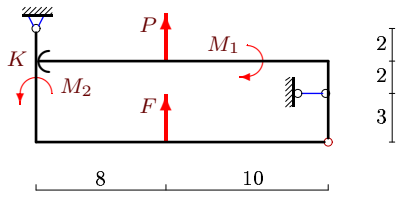
$P = 8$ кН, $M_1 = 5$ кНм, $M_2 = 15$ кНм.

Задача S-37.9. *10*



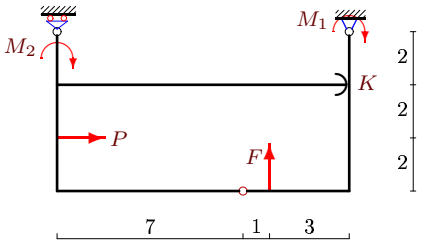
$P = 16$ кН, $M_1 = 88$ кНм, $M_2 = 55$ кНм.

Задача S-37.10. *10*



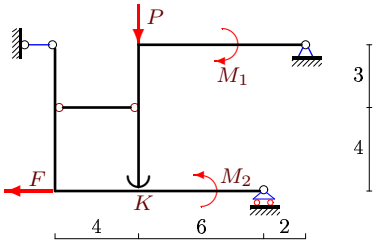
$P = 12$ кН, $M_1 = 9$ кНм, $M_2 = 21$ кНм.

Задача S-37.11. *10*



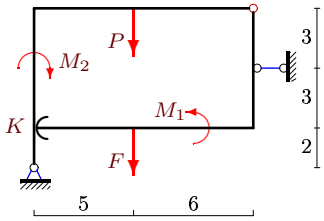
$P = 21$ кН, $M_1 = 20$ кНм, $M_2 = 35$ кНм.

Задача S-37.12. *10*



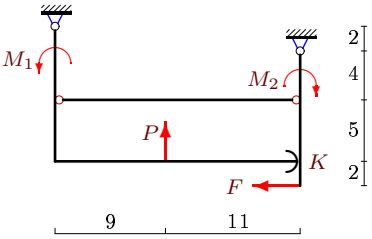
$P = 7$ кН, $M_1 = M_2 = 11$ кНм.

Задача S-37.13. *10*



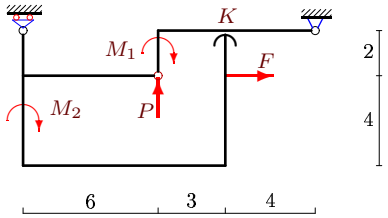
$P = 5$ кН, $M_1 = 6$ кНм, $M_2 = 16$ кНм.

Задача S-37.14. *10*



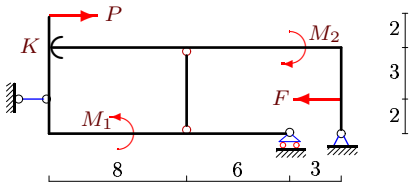
$P = 33$ кН, $M_1 = 6$ кНм, $M_2 = 4$ кНм.

Задача S-37.15. *10*



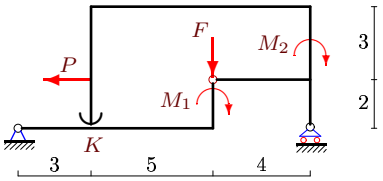
$P = 14$ кН, $M_1 = 21$ кНм, $M_2 = 18$ кНм.

Задача S-37.16. *10*



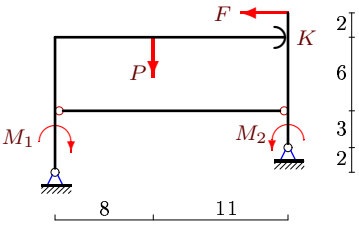
$P = 4$ кН, $M_1 = 8$ кНм, $M_2 = 12$ кНм.

Задача S-37.17. *10*



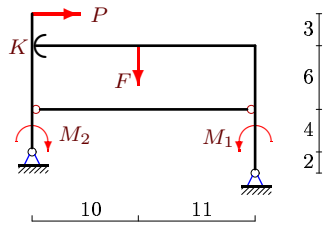
$P = 8$ кН, $M_1 = 18$ кНм, $M_2 = 9$ кНм.

Задача S-37.18. *10*



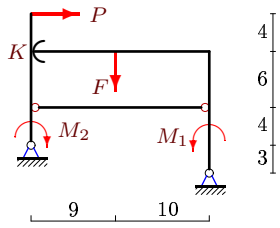
$P = 55$ кН, $M_1 = 10$ кНм, $M_2 = 6$ кНм.

Задача S-37.19. 10



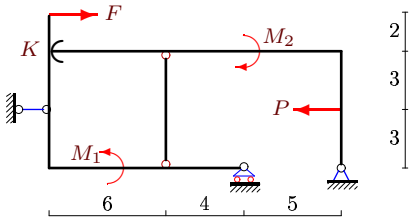
$P = 22$ кН, $M_1 = 12$ кНм, $M_2 = 8$ кНм.

Задача S-37.20. 10



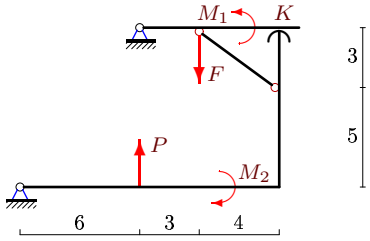
$P = 40$ кН, $M_1 = 21$ кНм, $M_2 = 12$ кНм.

Задача S-37.21. 10



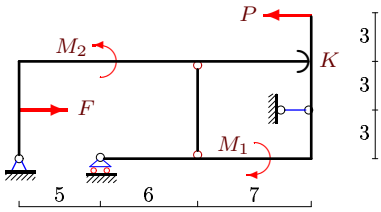
$P = 15$ кН, $M_1 = 4$ кНм, $M_2 = 9$ кНм.

Задача S-37.22. 10



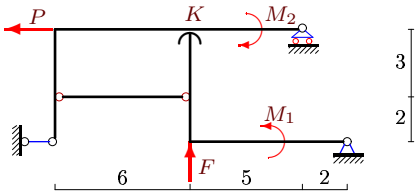
$P = 59$ кН, $M_1 = 9$ кНм, $M_2 = 59$ кНм.

Задача S-37.23. 10



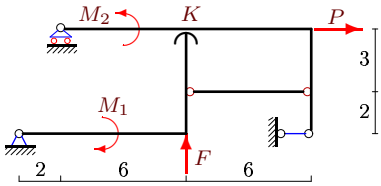
$P = 9$ кН, $M_1 = 6$ кНм, $M_2 = 11$ кНм.

Задача S-37.24. 10



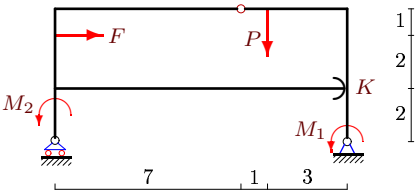
$P = 7$ кН, $M_1 = M_2 = 20$ кНм.

Задача S-37.25. 10



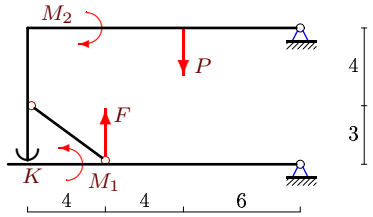
$P = 8$ кН, $M_1 = M_2 = 25$ кНм.

Задача S-37.26. 10



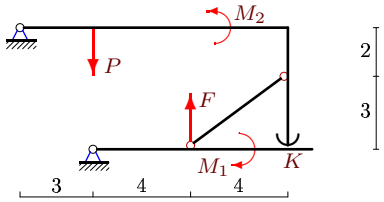
$P = 39$ кН, $M_1 = 20$ кНм, $M_2 = 35$ кНм.

Задача S-37.27. 10



$P = 58$ кН, $M_1 = 15$ кНм, $M_2 = 29$ кНм.

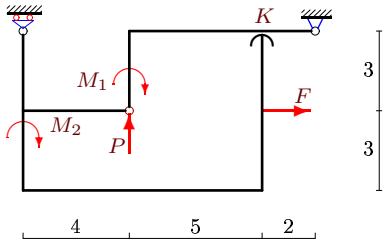
Задача S-37.28. 10



$P = 41$ кН, $M_1 = 12$ кНм, $M_2 = 41$ кНм.

Задача S-37.29.

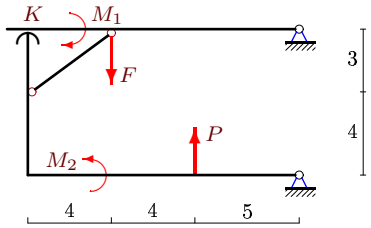
10



$P = 7$ кН, $M_1 = 14$ кНм, $M_2 = 8$ кНм.

Задача S-37.30.

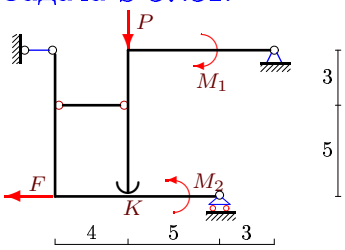
10



$P = 55$ кН, $M_1 = 54$ кНм, $M_2 = 110$ кНм.

Задача S-37.31.

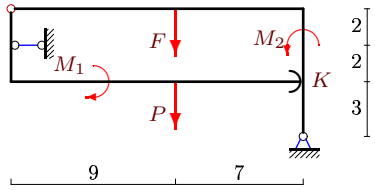
10



$P = 8$ кН, $M_1 = M_2 = 1$ кНм.

Задача S-37.32.

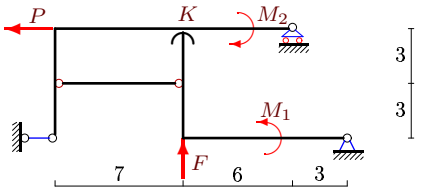
10



$P = 14$ кН, $M_1 = 10$ кНм, $M_2 = 35$ кНм.

Задача S-37.33.

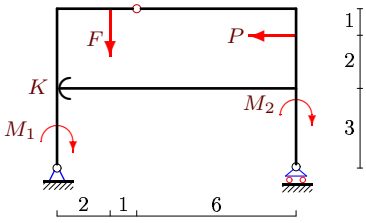
10



$P = 9$ кН, $M_1 = M_2 = 32$ кНм.

Задача S-37.34.

10



$P = 4$ кН, $M_1 = 3$ кНм, $M_2 = 6$ кНм.

Ответы.

Система с односторонней связью 16.02.2015

№	F
1	$F > 3$ кН
2	$F < 24$ кН
3	$F < 63$ кН
4	$F < 36$ кН
5	$F > 3$ кН
6	$F < 40$ кН
7	$F < 13$ кН
8	$F > 12$ кН
9	$F > 6$ кН
10	$F > 8$ кН
11	$F < 50$ кН
12	$F < 8$ кН
13	$F < 5$ кН
14	$F > 18$ кН
15	$F < 4$ кН
16	$F < 15$ кН
17	$F > 2$ кН
18	$F > 24$ кН
19	$F < 39$ кН
20	$F < 98$ кН
21	$F > 4$ кН
22	$F > 18$ кН
23	$F < 33$ кН
24	$F > 5$ кН
25	$F > 5$ кН
26	$F > 21$ кН
27	$F > 18$ кН
28	$F > 9$ кН
29	$F < 3$ кН
30	$F > 15$ кН
31	$F < 8$ кН
32	$F > 31$ кН
33	$F > 6$ кН
34	$F < 13$ кН

S-37 файл o37s10A