

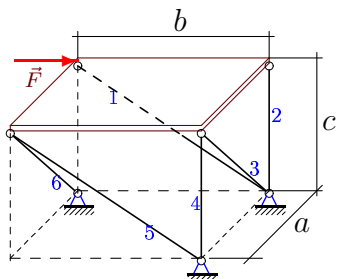
Равновесие плиты

Однородная прямоугольная горизонтальная плита весом G опирается на шесть невесомых шарнирно закрепленных по концам стержней. Вдоль ребра плиты действует сила F . Определить усилия в стержнях (в кН).

Кирсанов М.Н. **Решebник. Теоретическая механика**/Под ред. А. И. Кириллова.— М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.101.)

Задача S-13.1.

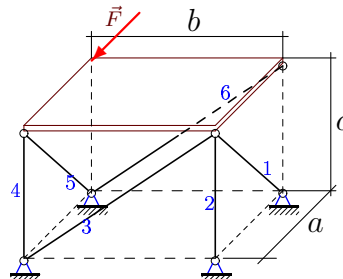
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$$a = b = 15 \text{ м}, c = 8 \text{ м}, \\ F = 15 \text{ кН}, G = 48 \text{ кН}.$$

Задача S-13.2.

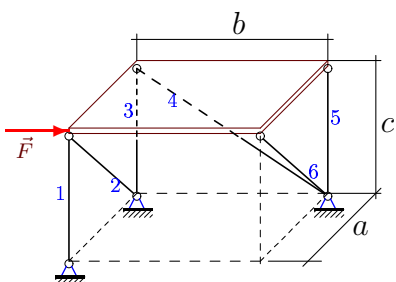
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$$a = b = 15 \text{ м}, c = 8 \text{ м}, \\ F = 90 \text{ кН}, G = 80 \text{ кН}.$$

Задача S-13.3.

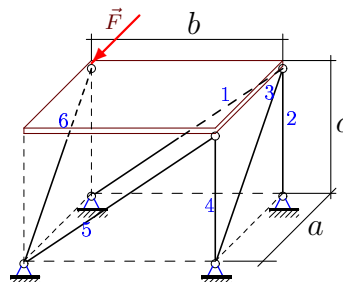
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$$a = b = 3 \text{ м}, c = 4 \text{ м}, \\ F = 3 \text{ кН}, G = 4 \text{ кН}.$$

Задача S-13.4.

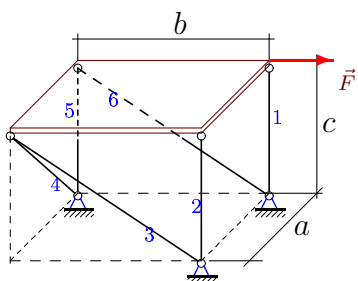
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$$a = b = 5 \text{ м}, c = 12 \text{ м}, \\ F = 5 \text{ кН}, G = 48 \text{ кН}.$$

Задача S-13.5.

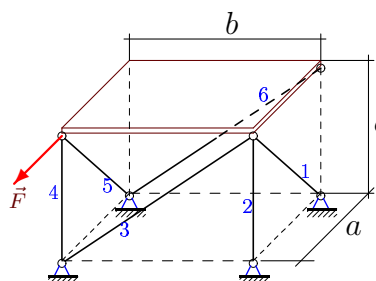
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$$a = b = 3 \text{ м}, c = 4 \text{ м}, \\ F = 21 \text{ кН}, G = 32 \text{ кН}.$$

Задача S-13.6.

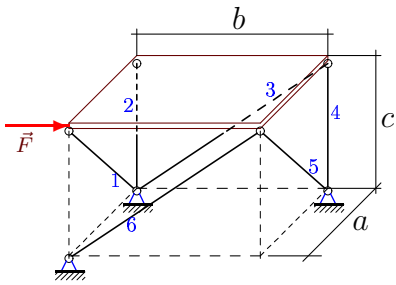
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$$a = b = 3 \text{ м}, c = 4 \text{ м}, \\ F = 21 \text{ кН}, G = 8 \text{ кН}.$$

Задача S-13.7.

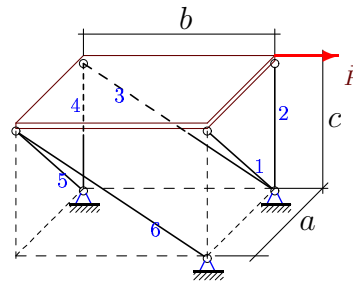
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$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 24 \text{ кН}, G = 150 \text{ кН}.$

Задача S-13.8.

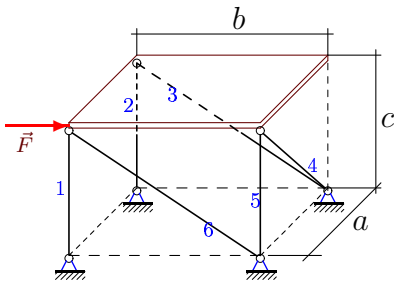
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 3 \text{ кН}, G = 48 \text{ кН}.$

Задача S-13.9.

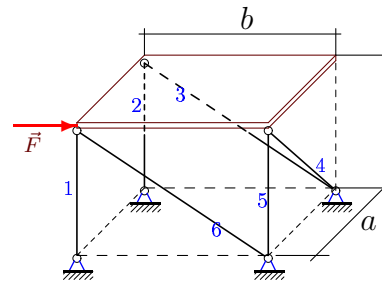
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 45 \text{ кН}, G = 56 \text{ кН}.$

Задача S-13.10.

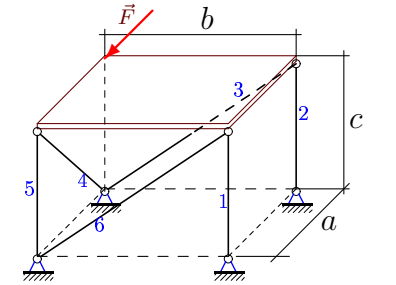
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$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 4 \text{ кН}, G = 6 \text{ кН}.$

Задача S-13.11.

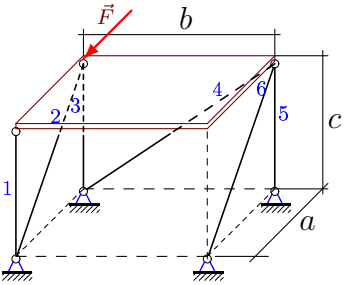
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$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 90 \text{ кН}.$

Задача S-13.12.

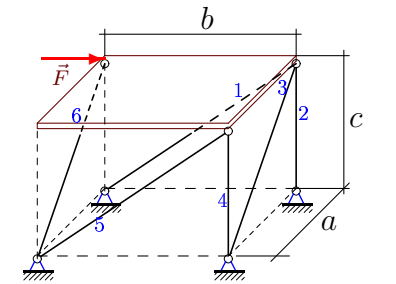
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$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.13.

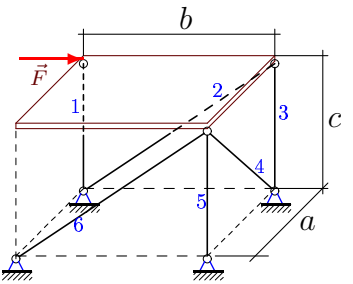
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$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 10 \text{ кН}, G = 120 \text{ кН}.$

Задача S-13.14.

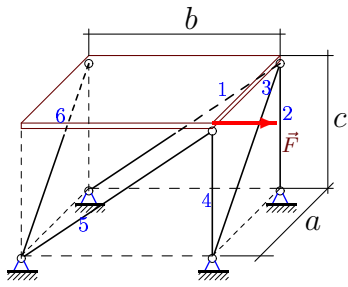
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 15 \text{ кН}, G = 56 \text{ кН}.$

Задача S-13.15.

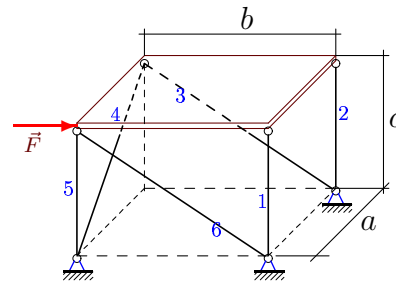
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 45 \text{ кН}, G = 16 \text{ кН}.$

Задача S-13.16.

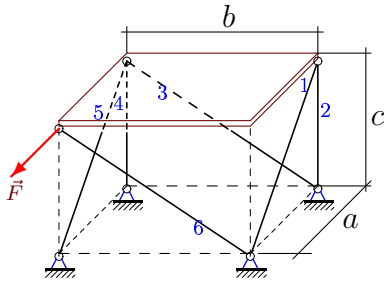
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 21 \text{ кН}, G = 24 \text{ кН}.$

Задача S-13.17.

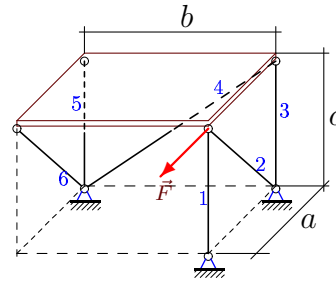
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 21 \text{ кН}, G = 40 \text{ кН}.$

Задача S-13.18.

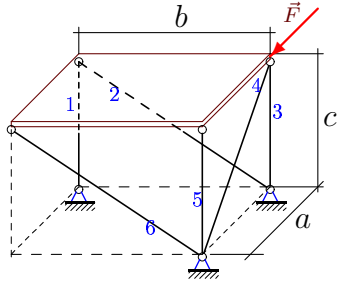
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$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 24 \text{ кН}, G = 10 \text{ кН}.$

Задача S-13.19.

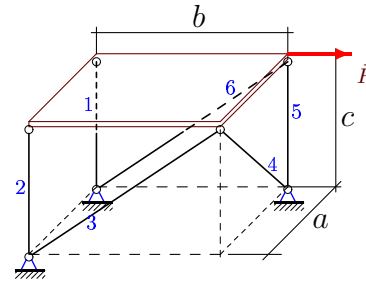
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$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 4 \text{ кН}, G = 2 \text{ кН}.$

Задача S-13.20.

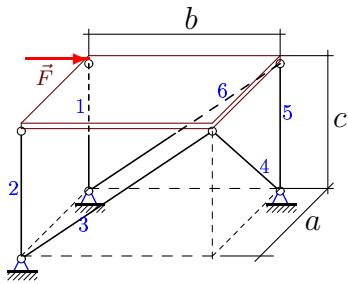
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$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 5 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.21.

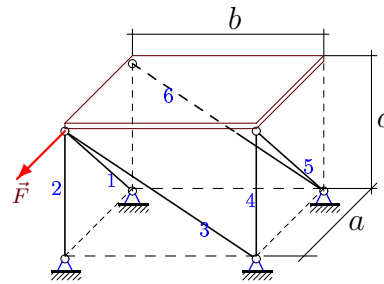
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$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 48 \text{ кН}, G = 50 \text{ кН}.$

Задача S-13.22.

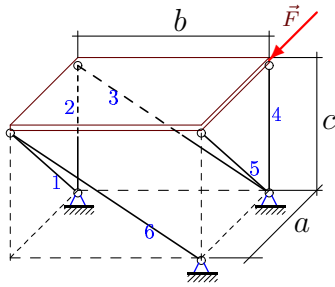
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 75 \text{ кН}, G = 112 \text{ кН}.$

Задача S-13.23.

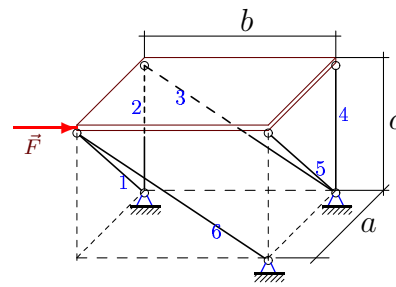
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 90 \text{ кН}, G = 80 \text{ кН}.$

Задача S-13.24.

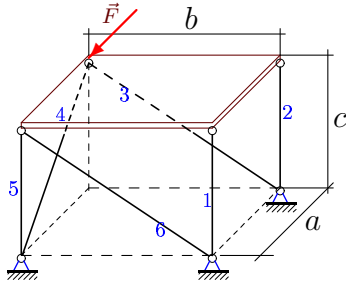
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$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 10 \text{ кН}, G = 24 \text{ кН}.$

Задача S-13.25.

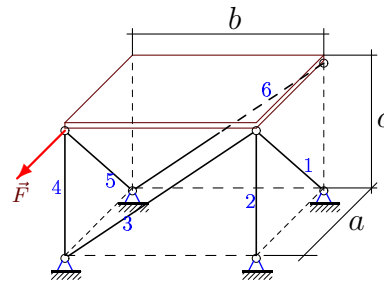
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$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 25 \text{ кН}, G = 72 \text{ кН}.$

Задача S-13.26.

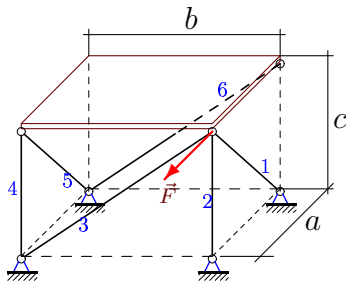
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$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 105 \text{ кН}, G = 80 \text{ кН}.$

Задача S-13.27.

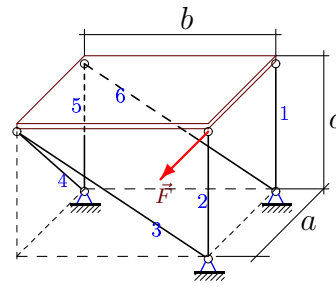
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 3 \text{ кН}, G = 8 \text{ кН}.$

Задача S-13.28.

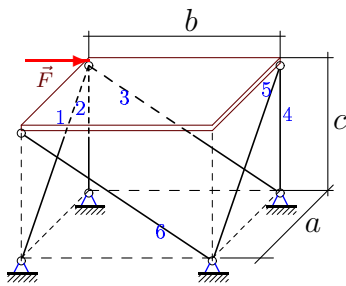
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 9 \text{ кН}, G = 32 \text{ кН}.$

Задача S-13.29.

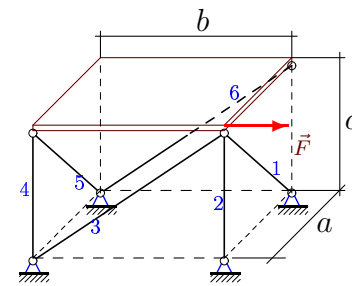
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$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 3 \text{ кН}, G = 24 \text{ кН}.$

Задача S-13.30.

5



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 12 \text{ кН}, G = 24 \text{ кН}.$

S-13

Ответы.
Равновесие плиты

16.02.2015

№	S_1	S_2	S_3	S_4	S_5	S_6
1	17	-32	34	-8	-34	-34
2	85	-80	85	-48	17	-85
3	-2	5	0	-5	2	-5
4	13	-24	13	-12	-13	-26
5	0	-16	0	0	12	-35
6	5	-8	5	-28	30	-5
7	136	-195	136	0	-136	-85
8	30	-48	25	4	-30	-30
9	24	-28	0	0	-28	-51
10	3	-3	0	0	-3	-5
11	0	-45	0	17	-60	0
12	-15	-17	15	0	-15	0
13	91	-144	65	0	-65	-65
14	-28	17	-8	0	-28	0
15	17	-16	17	-24	34	-17
16	0	-12	0	0	16	-35
17	-25	0	25	-12	-10	-25
18	-15	26	0	0	-5	0
19	-1	0	3	-5	-1	0
20	0	-15	0	0	-27	13
21	0	-25	0	0	-45	52
22	204	-152	119	0	-119	-119
23	-187	48	187	-176	289	-187
24	13	0	-13	0	-13	-13
25	-60	24	0	-65	24	0
26	85	-80	85	-56	34	-85
27	10	-12	5	0	-5	-5
28	24	-40	15	15	-28	-15
29	15	-20	10	0	-15	-15
30	20	-33	35	0	-20	-20

S-13 файл о13s5A