

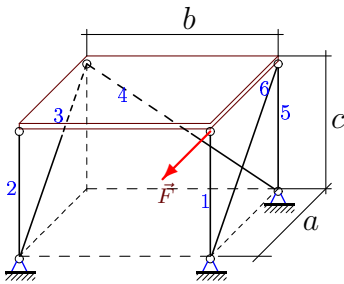
Равновесие плиты

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

Задача S-13.1.

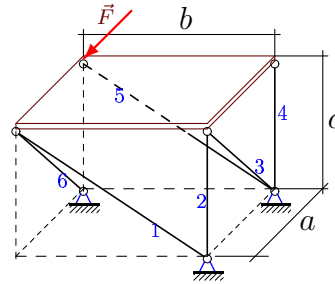
7



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

Задача S-13.2.

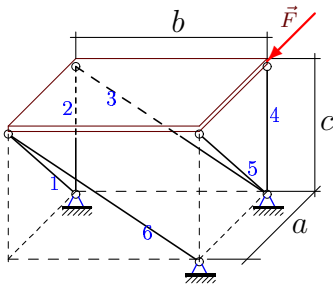
7



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

Задача S-13.3.

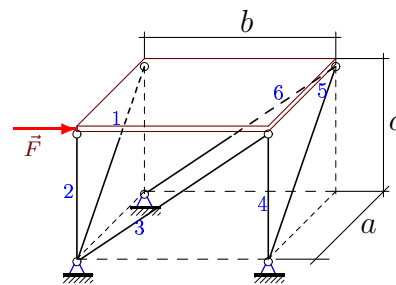
7



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 24 \text{ кН}, G = 60 \text{ кН}.$

Задача S-13.4.

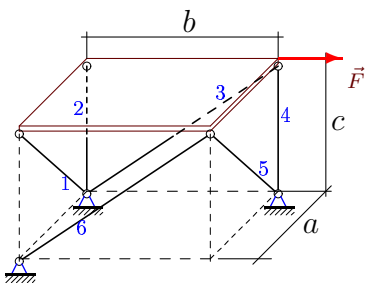
7



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 24 \text{ кН}, G = 6 \text{ кН}.$

Задача S-13.5.

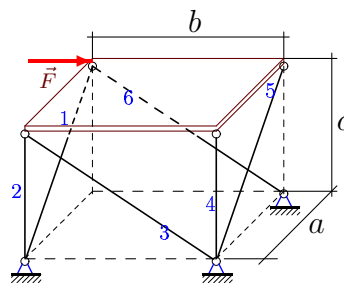
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 30 \text{ кН}, G = 48 \text{ кН}.$

Задача S-13.6.

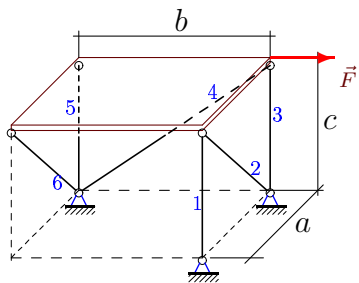
7



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

Задача S-13.7.

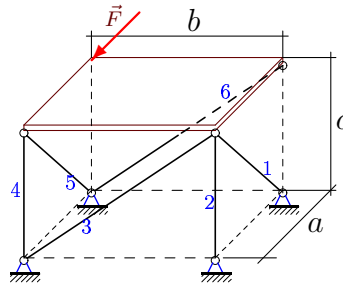
7



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 9 \text{ кН}, G = 8 \text{ кН}.$

Задача S-13.8.

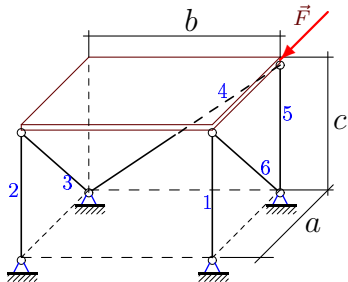
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 75 \text{ кН}, G = 64 \text{ кН}.$

Задача S-13.9.

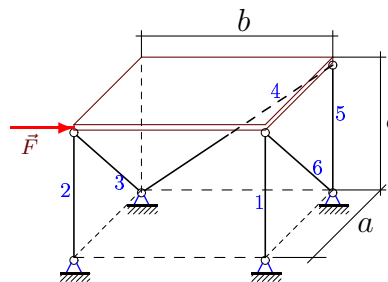
7



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

Задача S-13.10.

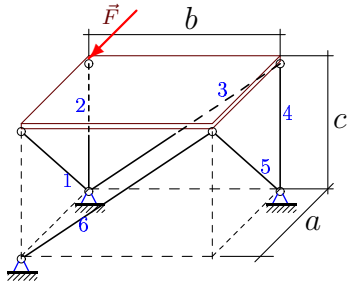
7



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 20 \text{ кН}, G = 18 \text{ кН}.$

Задача S-13.11.

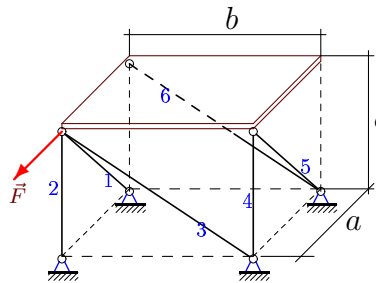
7



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

Задача S-13.12.

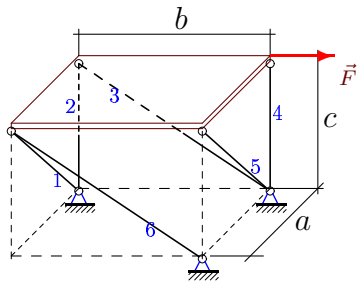
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 90 \text{ кН}, G = 16 \text{ кН}.$

Задача S-13.13.

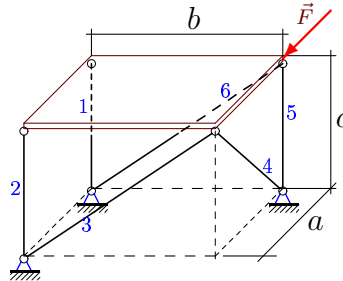
7



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

Задача S-13.14.

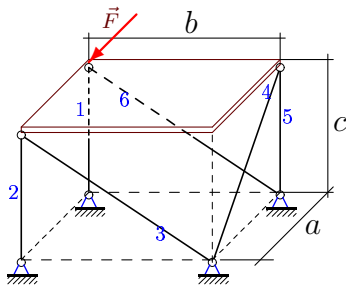
7



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 16 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.15.

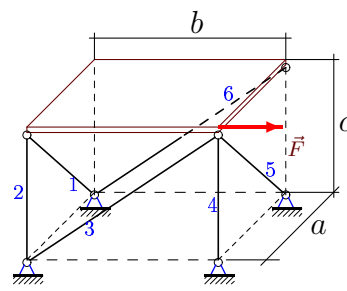
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 15 \text{ кН}, G = 4 \text{ кН}.$

Задача S-13.16.

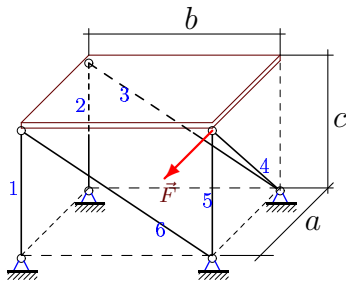
7



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

Задача S-13.17.

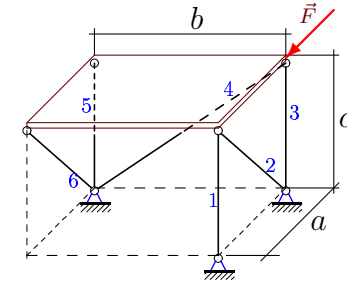
7



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 72 \text{ кН}, G = 70 \text{ кН}.$

Задача S-13.18.

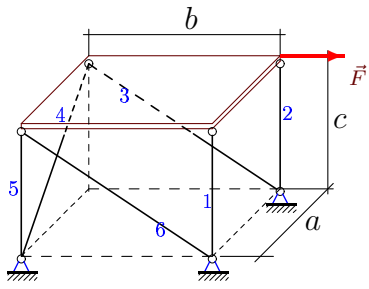
7



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 36 \text{ кН}, G = 40 \text{ кН}.$

Задача S-13.19.

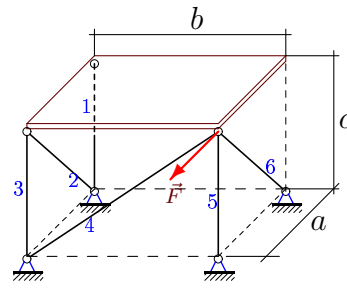
7



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 15 \text{ кН}, G = 8 \text{ кН}.$

Задача S-13.20.

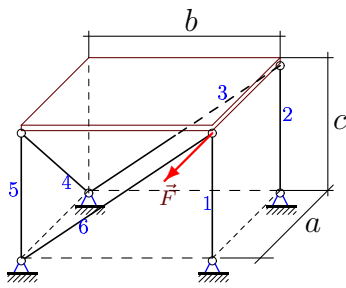
7



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

Задача S-13.21.

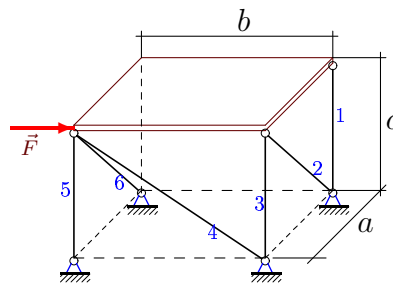
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 15 \text{ кН}, G = 96 \text{ кН}.$

Задача S-13.22.

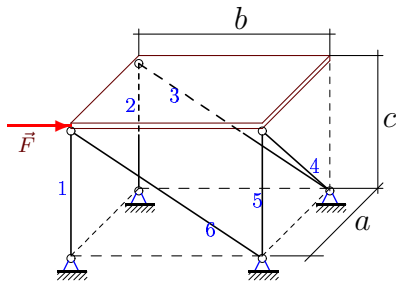
7



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 32 \text{ кН}, G = 210 \text{ кН}.$

Задача S-13.23.

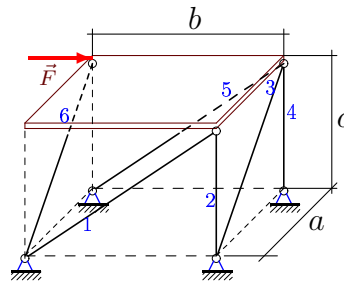
7



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 9 \text{ кН}, G = 56 \text{ кН}.$

Задача S-13.24.

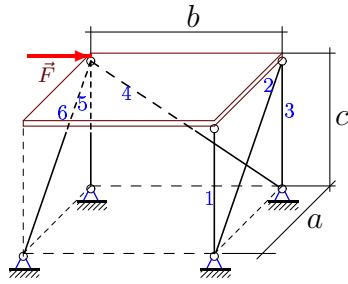
7



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 16 \text{ кН}, G = 210 \text{ кН}.$

Задача S-13.25.

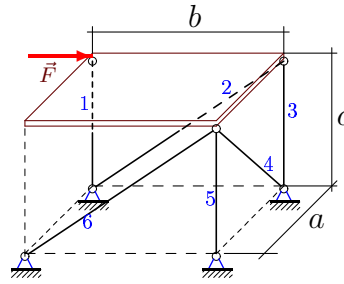
7



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 4 \text{ кН}, G = 14 \text{ кН}.$

Задача S-13.26.

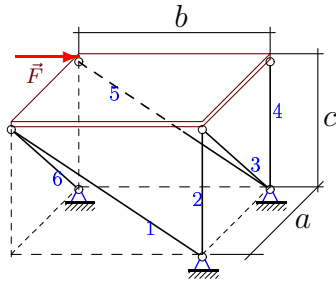
7



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 3 \text{ кН}, G = 10 \text{ кН}.$

Задача S-13.27.

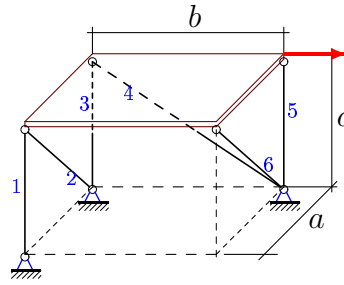
7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 15 \text{ кН}, G = 64 \text{ кН}.$

Задача S-13.28.

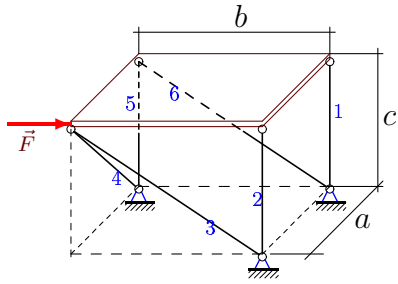
7



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 4 \text{ кН}, G = 10 \text{ кН}.$

Задача S-13.29.

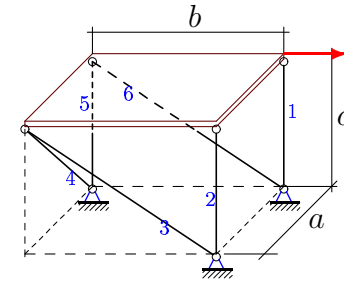
7



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 48 \text{ кН}, G = 70 \text{ кН}.$

Задача S-13.30.

7



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 15 \text{ кН}, G = 40 \text{ кН}.$

S-13

Ответы.
 Равновесие плиты

16.02.2015

№	S_1	S_2	S_3	S_4	S_5	S_6
1	0	-12	0	0	0	-13
2	-68	0	68	-56	68	-51
3	-85	45	85	-150	136	-85
4	5	-6	35	-18	-5	-5
5	51	-48	85	-16	-51	-51
6	0	0	0	-15	0	-17
7	-4	0	-12	15	-4	0
8	68	-64	68	-40	17	-68
9	-12	-24	0	0	-24	13
10	15	-24	25	25	-24	-25
11	51	-32	34	8	-34	-34
12	119	-64	17	0	-17	-17
13	-5	3	0	-6	5	-5
14	30	-45	0	34	-45	0
15	-8	6	-17	-17	6	17
16	-5	0	10	-12	5	-5
17	0	-35	0	78	-65	0
18	-35	39	0	0	-20	0
19	-20	16	-25	0	16	0
20	-75	0	0	0	-90	17
21	8	-56	17	17	-56	-17
22	-105	0	0	-68	-45	0
23	12	-28	0	0	-28	-15
24	-119	0	119	-240	153	-119
25	-7	0	0	-5	-4	0
26	-5	5	-4	0	-5	0
27	-51	-8	51	-48	34	-51
28	-5	0	3	-5	-5	0
29	-20	-15	-52	0	-15	0
30	0	-20	0	0	-12	-17

S-13 файл о13s7A