

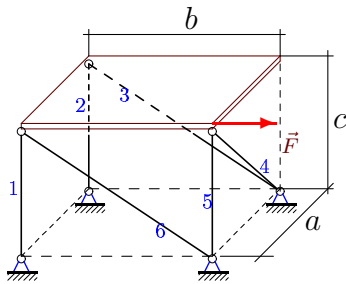
Равновесие плиты

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.

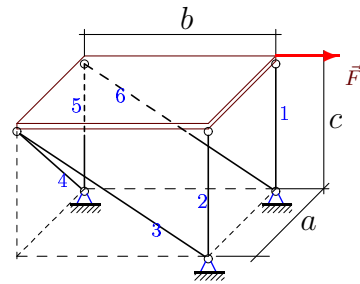
3



$a = b = 5$ м, $c = 12$ м,
 $F = 25$ кН, $G = 144$ кН.

Задача S-13.2.

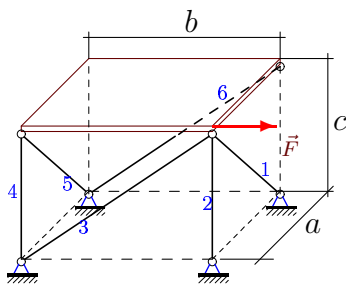
3



$a = b = 15$ м, $c = 8$ м,
 $F = 105$ кН, $G = 80$ кН.

Задача S-13.3.

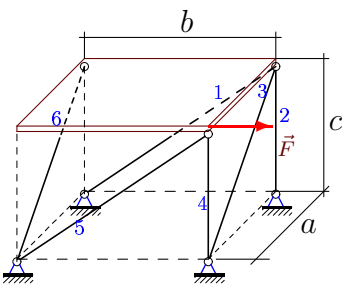
3



$a = b = 3$ м, $c = 4$ м,
 $F = 6$ кН, $G = 56$ кН.

Задача S-13.4.

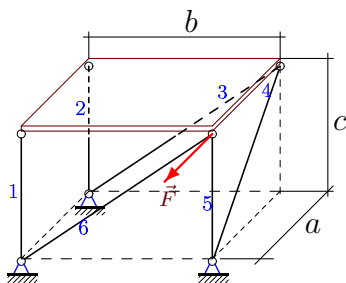
3



$a = b = 8$ м, $c = 15$ м,
 $F = 56$ кН, $G = 90$ кН.

Задача S-13.5.

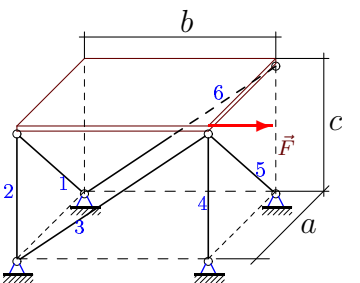
3



$a = b = 8$ м, $c = 15$ м,
 $F = 8$ кН, $G = 60$ кН.

Задача S-13.6.

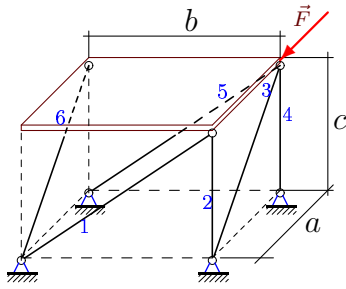
3



$a = b = 12$ м, $c = 5$ м,
 $F = 36$ кН, $G = 10$ кН.

Задача S-13.7.

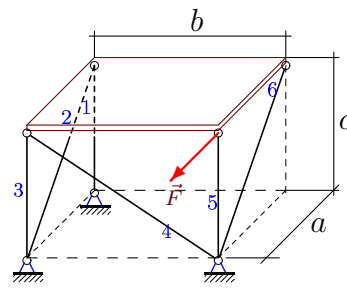
3



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

Задача S-13.8.

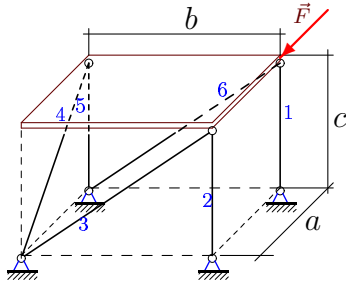
3



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 28 \text{ кН}, G = 24 \text{ кН}.$

Задача S-13.9.

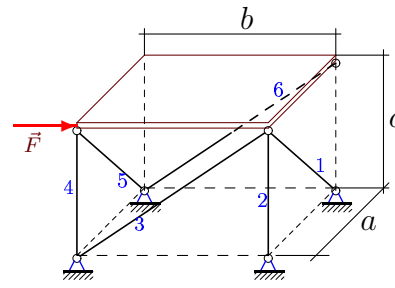
3



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 56 \text{ кН}, G = 60 \text{ кН}.$

Задача S-13.10.

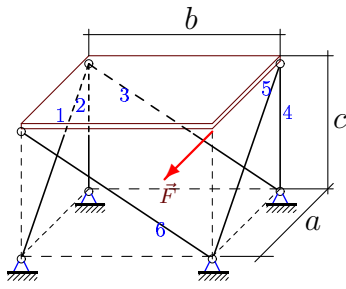
3



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

Задача S-13.11.

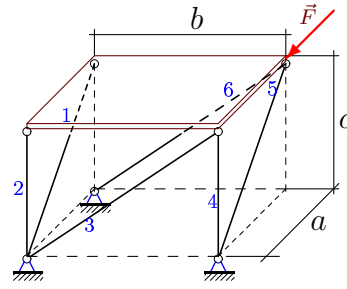
3



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

Задача S-13.12.

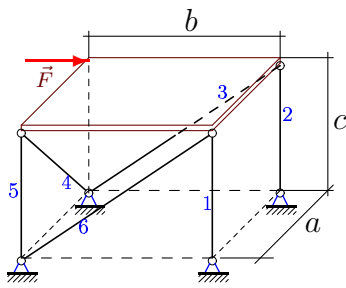
3



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 105 \text{ кН}, G = 96 \text{ кН}.$

Задача S-13.13.

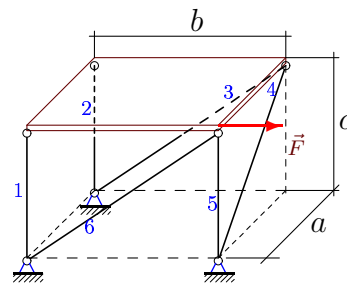
3



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 42 \text{ кН}.$

Задача S-13.14.

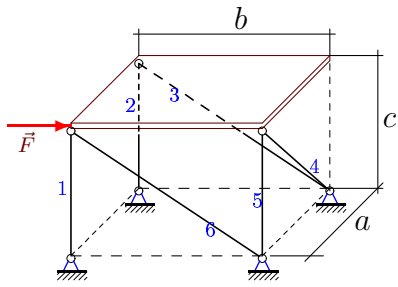
3



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

Задача S-13.15.

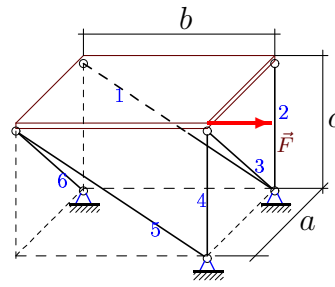
3



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 3 \text{ кН}, G = 16 \text{ кН}.$

Задача S-13.16.

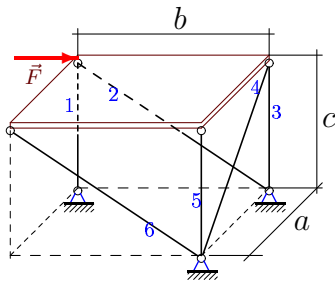
3



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 12 \text{ кН}, G = 60 \text{ кН}.$

Задача S-13.17.

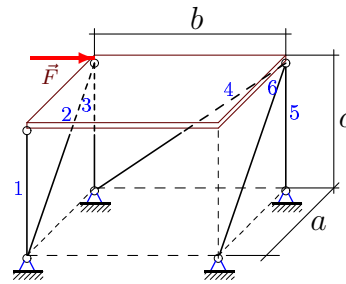
3



$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 5 \text{ кН}, G = 20 \text{ кН}.$

Задача S-13.18.

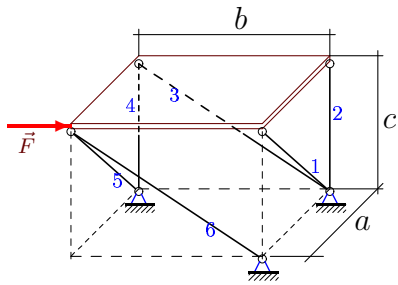
3



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 84 \text{ кН}, G = 20 \text{ кН}.$

Задача S-13.19.

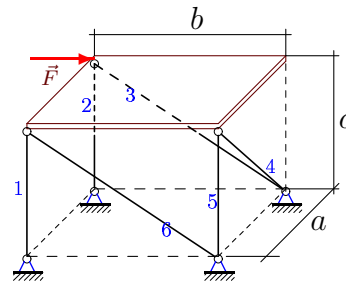
3



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

Задача S-13.20.

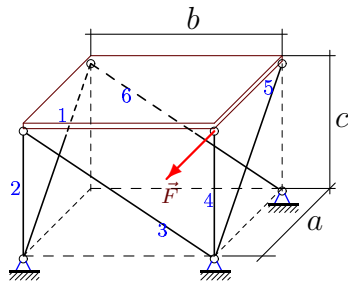
3



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 12 \text{ кН}.$

Задача S-13.21.

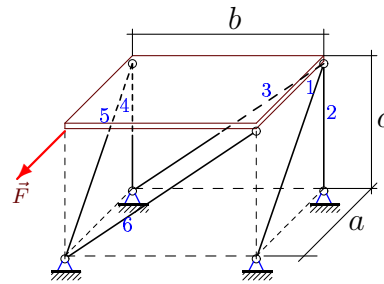
3



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 36 \text{ кН}, G = 10 \text{ кН}.$

Задача S-13.22.

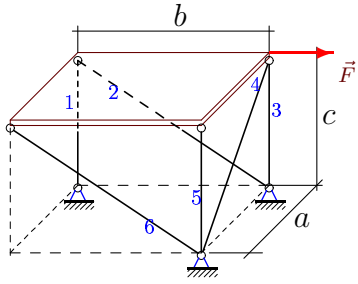
3



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

Задача S-13.23.

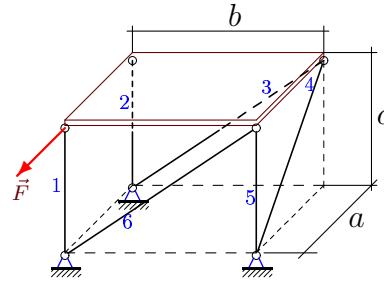
3



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

Задача S-13.24.

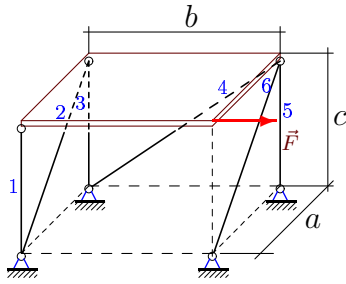
3



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 105 \text{ кН}, G = 96 \text{ кН}.$

Задача S-13.25.

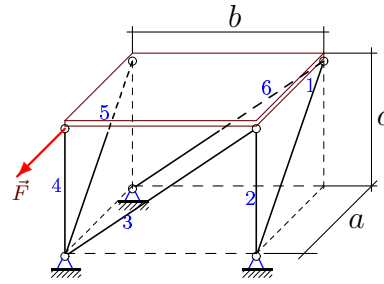
3



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 8 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.26.

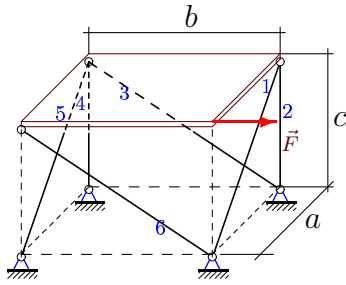
3



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

Задача S-13.27.

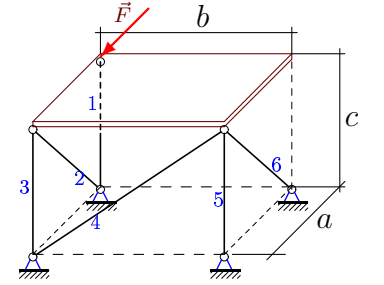
3



$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 35 \text{ кН}, G = 120 \text{ кН}.$

Задача S-13.28.

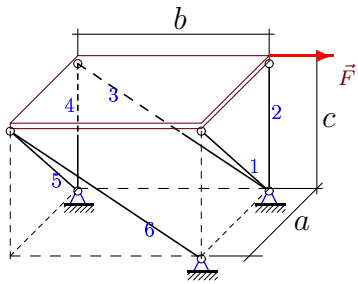
3



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

Задача S-13.29.

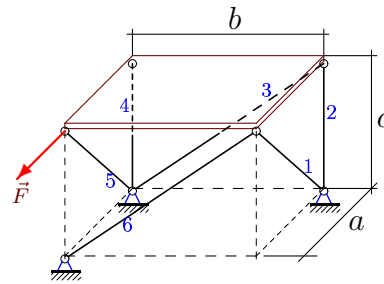
3



$a = b = 3 \text{ м}, c = 4 \text{ м},$
 $F = 15 \text{ кН}, G = 16 \text{ кН}.$

Задача S-13.30.

3



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

S-13

Ответы.
 Равновесие плиты

16.02.2015

№	S_1	S_2	S_3	S_4	S_5	S_6
1	60	-72	0	0	-72	-65
2	0	-40	0	0	16	-119
3	35	-64	45	0	-35	-35
4	51	-90	51	-105	68	-51
5	-15	-15	0	-17	-15	0
6	-13	0	52	-25	13	-13
7	-20	0	5	-15	20	-20
8	9	0	-21	0	9	-35
9	-105	75	-119	-119	75	119
10	85	-165	102	0	-85	-85
11	65	-50	65	20	-117	-65
12	-17	-40	-17	0	-102	17
13	0	-36	17	0	-21	0
14	0	-25	0	0	-45	52
15	4	-8	0	0	-8	-5
16	65	-55	65	0	-78	-65
17	2	-13	0	0	-10	0
18	-10	0	0	91	-45	0
19	-13	0	-13	0	13	-13
20	0	9	-17	0	-6	0
21	26	-15	-26	20	-65	26
22	5	-8	5	4	-10	-5
23	2	-5	0	0	-1	0
24	-112	64	-119	-119	8	119
25	-15	-10	6	10	-27	10
26	-17	-30	17	-30	-17	-17
27	26	-84	-26	48	-26	-65
28	-32	85	-40	0	-32	0
29	10	-16	-15	20	-10	-10
30	-25	3	25	-30	30	-25

S-13 файл о13s3A