

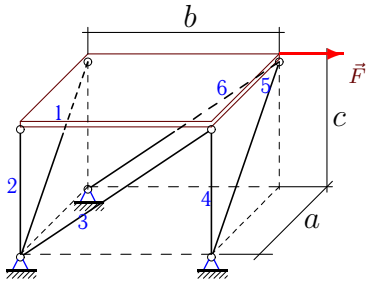
Равновесие плиты

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.

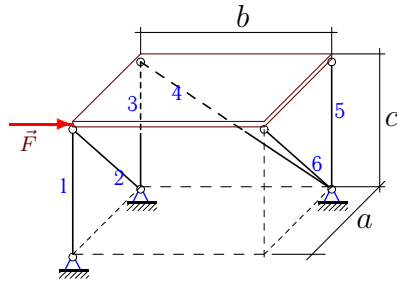
2



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 16 \text{ кН}, G = 150 \text{ кН}.$

Задача S-13.2.

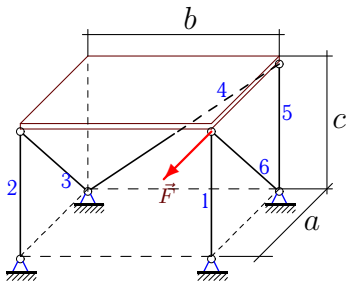
2



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 20 \text{ кН}.$

Задача S-13.3.

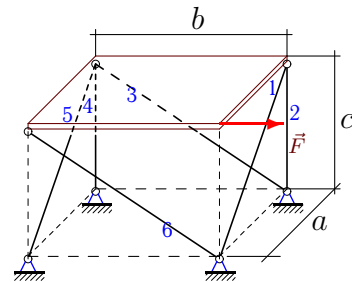
2



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

Задача S-13.4.

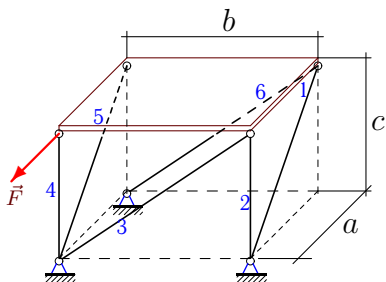
2



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 20 \text{ кН}, G = 6 \text{ кН}.$

Задача S-13.5.

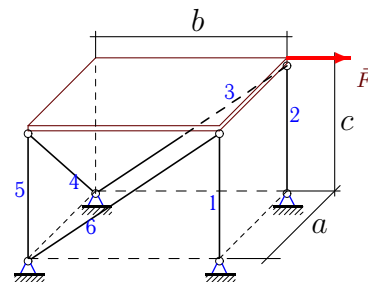
2



$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 35 \text{ кН}, G = 96 \text{ кН}.$

Задача S-13.6.

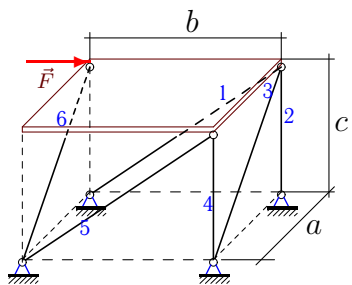
2



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

Задача S-13.7.

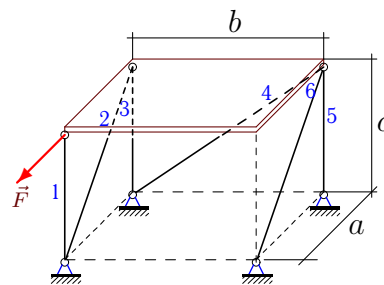
2



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 48 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.8.

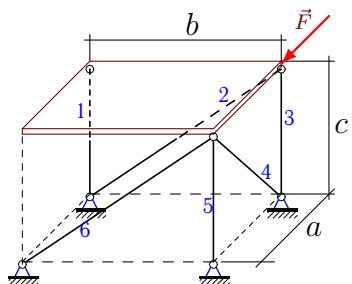
2



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 8 \text{ кН}, G = 6 \text{ кН}.$

Задача S-13.9.

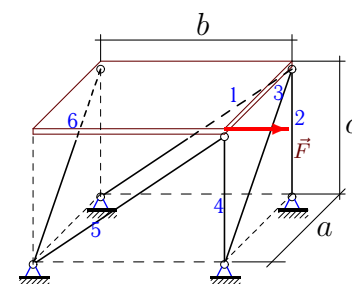
2



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

Задача S-13.10.

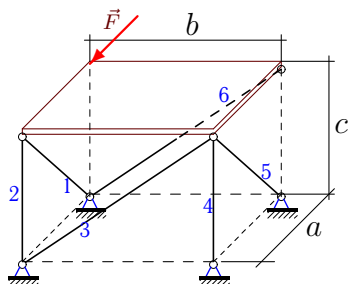
2



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 24 \text{ кН}, G = 42 \text{ кН}.$

Задача S-13.11.

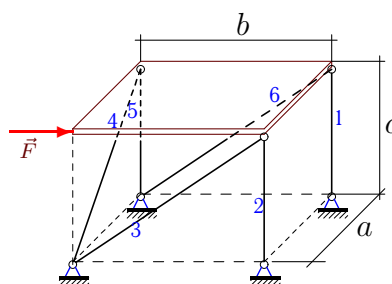
2



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 24 \text{ кН}, G = 50 \text{ кН}.$

Задача S-13.12.

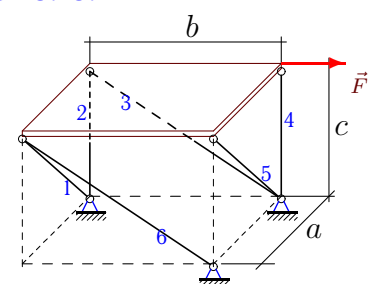
2



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

Задача S-13.13.

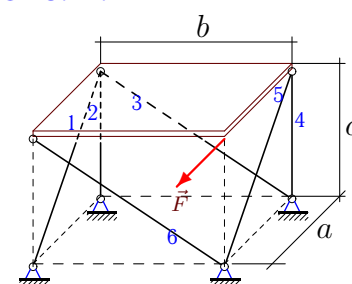
2



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 16 \text{ кН}, G = 30 \text{ кН}.$

Задача S-13.14.

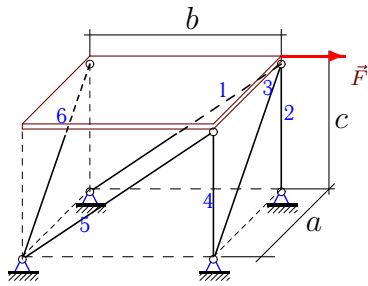
2



$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 20 \text{ кН}, G = 168 \text{ кН}.$

Задача S-13.15.

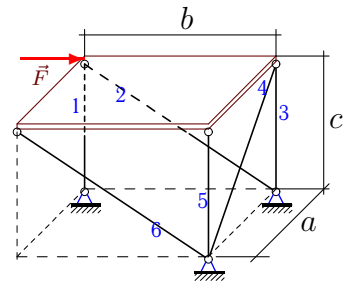
2



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 40 \text{ кН}, G = 120 \text{ кН}.$

Задача S-13.16.

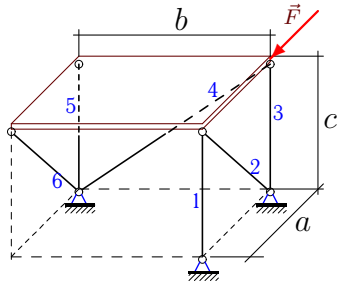
2



$a = b = 12 \text{ м}, c = 5 \text{ м},$
 $F = 12 \text{ кН}, G = 6 \text{ кН}.$

Задача S-13.17.

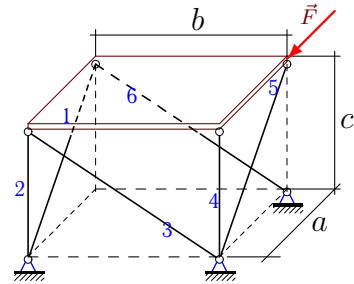
2



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

Задача S-13.18.

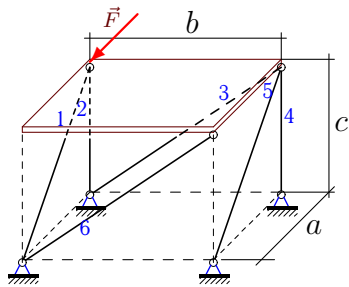
2



$a = b = 4 \text{ м}, c = 3 \text{ м},$
 $F = 28 \text{ кН}, G = 36 \text{ кН}.$

Задача S-13.19.

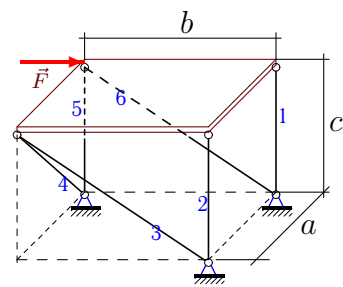
2



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

Задача S-13.20.

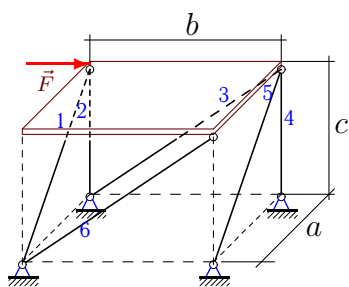
2



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

Задача S-13.21.

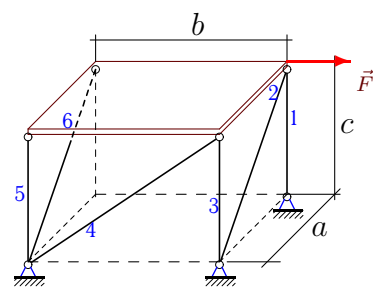
2



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

Задача S-13.22.

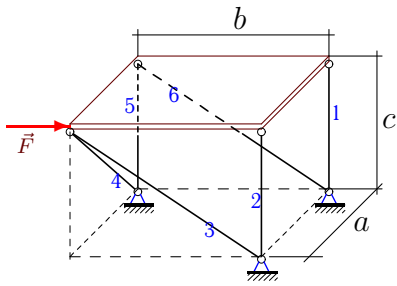
2



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

Задача S-13.23.

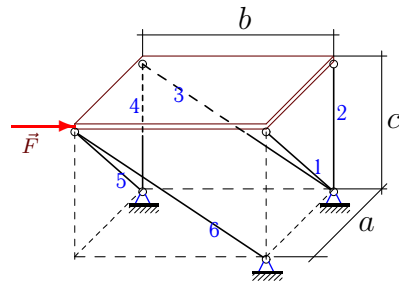
2



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 8 \text{ кН}, G = 10 \text{ кН}.$

Задача S-13.24.

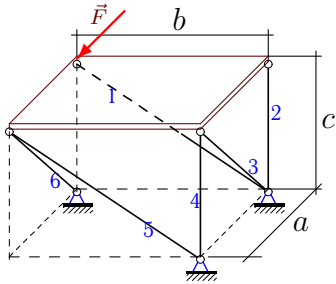
2



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

Задача S-13.25.

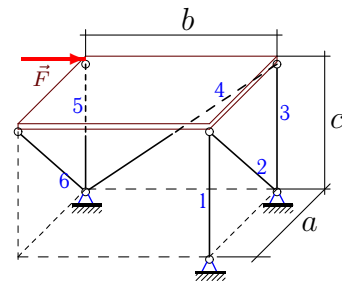
2



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

Задача S-13.26.

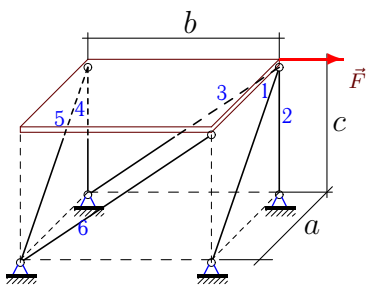
2



$a = b = 15 \text{ м}, c = 8 \text{ м},$
 $F = 105 \text{ кН}, G = 48 \text{ кН}.$

Задача S-13.27.

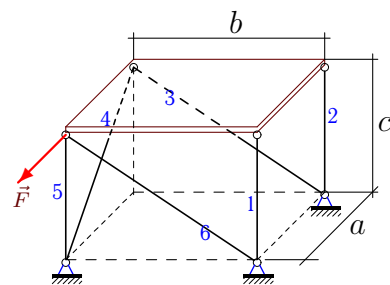
2



$a = b = 5 \text{ м}, c = 12 \text{ м},$
 $F = 35 \text{ кН}, G = 144 \text{ кН}.$

Задача S-13.28.

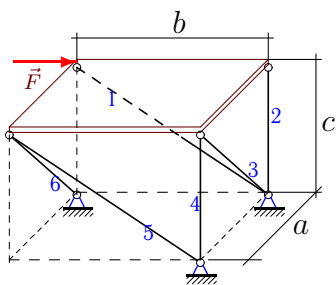
2



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

Задача S-13.29.

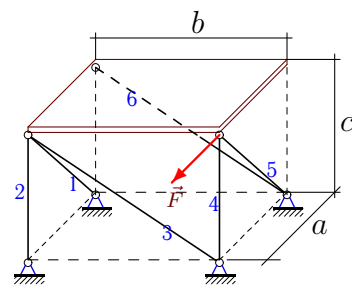
2



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

Задача S-13.30.

2



$a = b = 8 \text{ м}, c = 15 \text{ м},$
 $F = 32 \text{ кН}, G = 90 \text{ кН}.$

S-13 Ответы.
Равновесие плиты

20.03.2013

№	S_1	S_2	S_3	S_4	S_5	S_6
1	119	-180	119	0	-119	-85
2	-10	17	0	-17	5	-17
3	-12	-30	0	0	-30	13
4	20	-15	-20	24	-20	-5
5	39	-84	-39	72	-130	39
6	0	-6	5	0	-3	0
7	91	-50	39	0	-39	-39
8	-3	-10	6	0	-3	0
9	-4	0	0	15	-16	0
10	35	-42	35	-18	-5	-35
11	-39	-10	65	-50	65	-65
12	0	-14	17	0	-6	0
13	-25	12	5	-30	25	-25
14	91	-168	91	48	-143	-91
15	153	-195	68	0	-68	-68
16	2	-13	0	0	-3	0
17	-16	17	0	0	-8	0
18	5	-21	-5	6	-40	5
19	-10	3	5	-6	5	-5
20	0	-4	0	0	4	-17
21	-13	0	39	-20	13	-13
22	-7	-5	0	5	-10	5
23	-15	10	-17	0	10	0
24	-5	-3	-5	0	5	-10
25	51	-32	51	0	-51	-17
26	-24	0	-56	119	-24	0
27	78	-228	169	0	-78	-78
28	-15	0	0	-17	0	0
29	-85	32	-34	-24	34	34
30	51	-90	51	-60	17	-51

S-13 файл o13s2A