

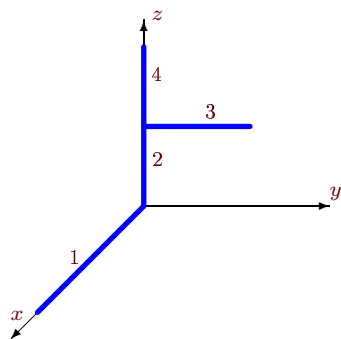
# Центр тяжести пространственной стержневой фигуры

Найти координаты центра тяжести пространственной фигуры, состоящей из четырех однородных стержней. Размеры даны в метрах.

Кирсанов М.Н. **Решебник. Теоретическая механика** / Под ред. А. И. Кириллова. – М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.122.)

**Задача S-21.1.**

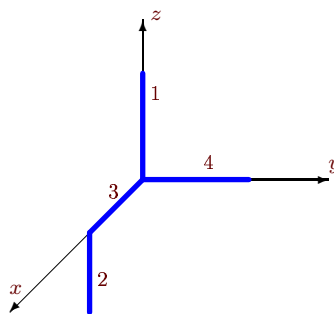
4



$$l_1 = 12, l_2 = 9, l_3 = 12, l_4 = 3.$$

**Задача S-21.2.**

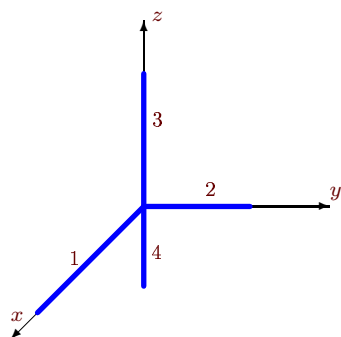
4



$$l_1 = 3, l_2 = 3, l_3 = 6, l_4 = 6.$$

**Задача S-21.3.**

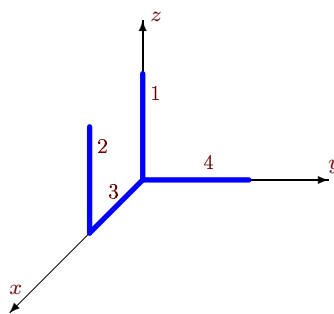
4



$$l_1 = 10, l_2 = 20, l_3 = 5, l_4 = 15.$$

**Задача S-21.4.**

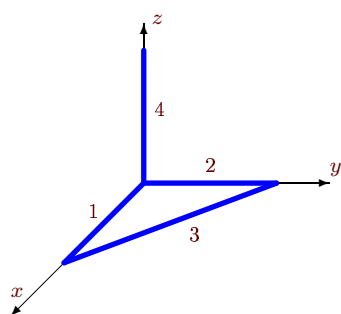
4



$$l_1 = 6, l_2 = 6, l_3 = 12, l_4 = 12.$$

**Задача S-21.5.**

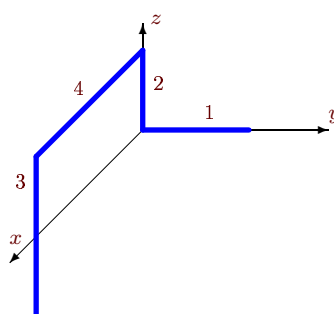
4



$$l_1 = 9, l_2 = 12, l_3 = 15, l_4 = 18.$$

**Задача S-21.6.**

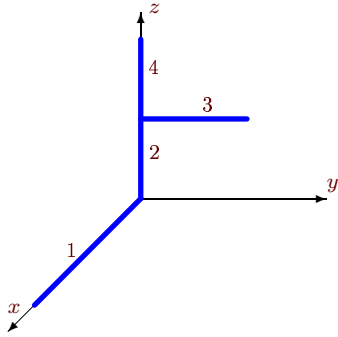
4



$$l_1 = 16, l_2 = 8, l_3 = 24, l_4 = 16.$$

Задача S-21.7.

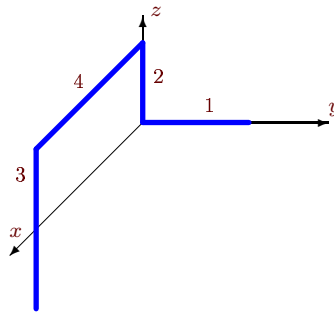
4



$$l_1 = 8, l_2 = 12, l_3 = 8, l_4 = 4.$$

Задача S-21.8.

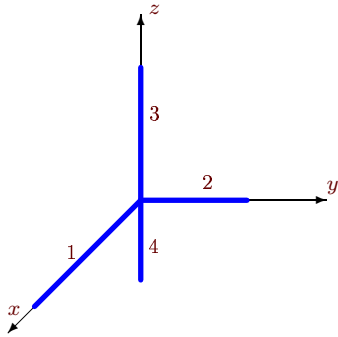
4



$$l_1 = 10, l_2 = 10, l_3 = 20, l_4 = 10.$$

Задача S-21.9.

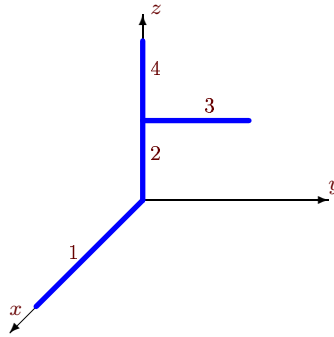
4



$$l_1 = 12, l_2 = 24, l_3 = 14, l_4 = 22.$$

Задача S-21.10.

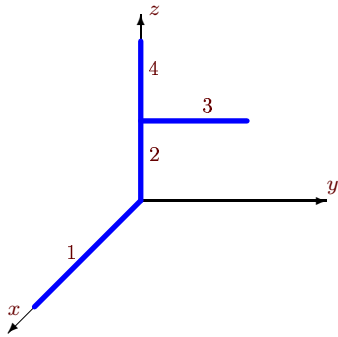
4



$$l_1 = 20, l_2 = 10, l_3 = 10, l_4 = 10.$$

Задача S-21.11.

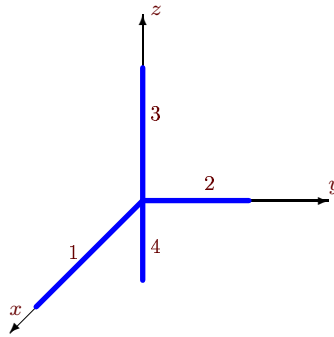
4



$$l_1 = 8, l_2 = 4, l_3 = 8, l_4 = 12.$$

Задача S-21.12.

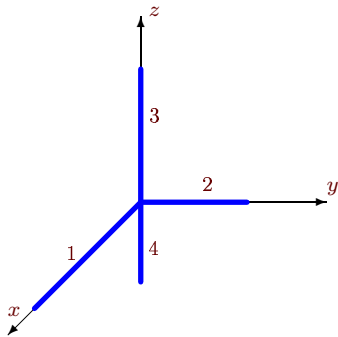
4



$$l_1 = 10, l_2 = 20, l_3 = 15, l_4 = 5.$$

Задача S-21.13.

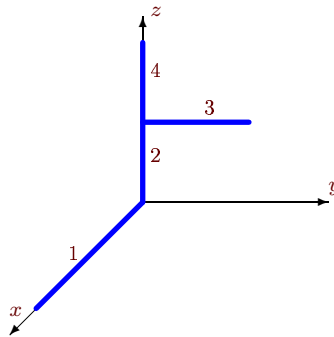
4



$$l_1 = 12, l_2 = 24, l_3 = 20, l_4 = 16.$$

Задача S-21.14.

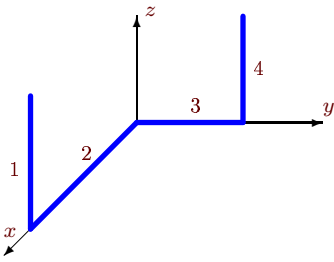
4



$$l_1 = 8, l_2 = 4, l_3 = 8, l_4 = 12.$$

Задача S-21.15.

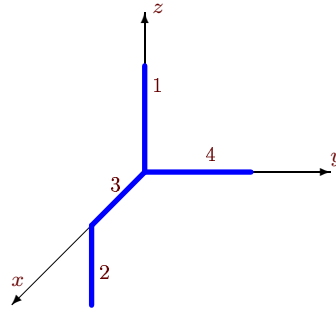
4



$$l_1 = 8, l_2 = 16, l_3 = 16, l_4 = 24.$$

Задача S-21.16.

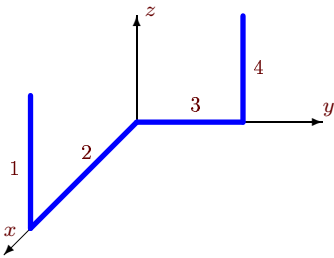
4



$$l_1 = 4, l_2 = 4, l_3 = 8, l_4 = 16.$$

Задача S-21.17.

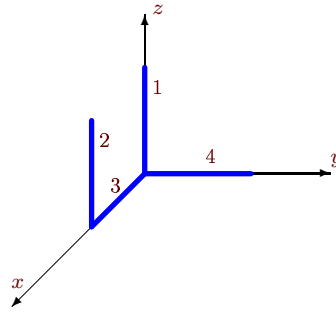
4



$$l_1 = 12, l_2 = 24, l_3 = 12, l_4 = 24.$$

Задача S-21.18.

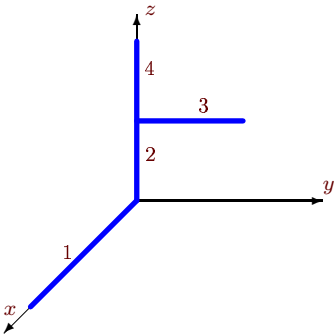
4



$$l_1 = 12, l_2 = 12, l_3 = 24, l_4 = 24.$$

Задача S-21.19.

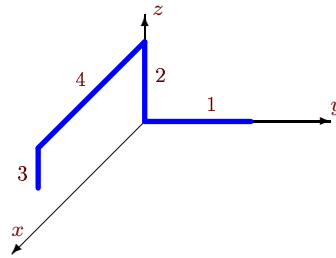
4



$$l_1 = 12, l_2 = 3, l_3 = 12, l_4 = 9.$$

Задача S-21.20.

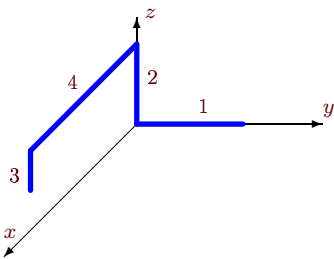
4



$$l_1 = 28, l_2 = 28, l_3 = 14, l_4 = 28.$$

Задача S-21.21.

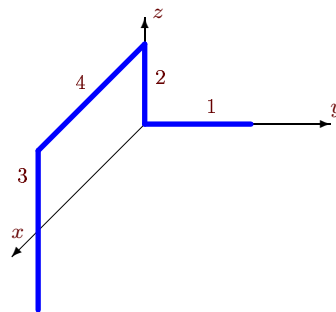
4



$$l_1 = 12, l_2 = 24, l_3 = 12, l_4 = 24.$$

Задача S-21.22.

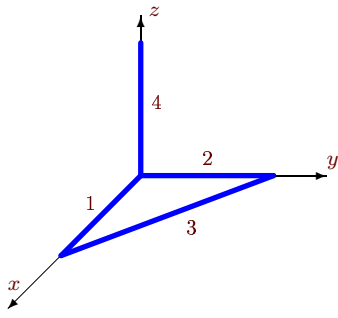
4



$$l_1 = 12, l_2 = 12, l_3 = 24, l_4 = 24.$$

Задача S-21.23.

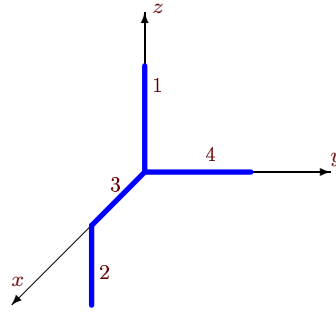
4



$$l_1 = 9, l_2 = 12, l_3 = 15, l_4 = 18.$$

Задача S-21.24.

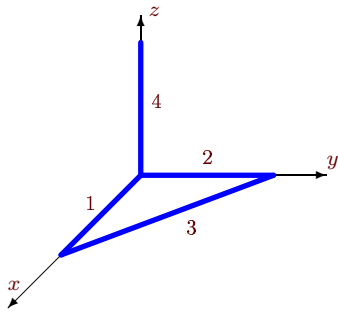
4



$$l_1 = 12, l_2 = 4, l_3 = 8, l_4 = 8.$$

Задача S-21.25.

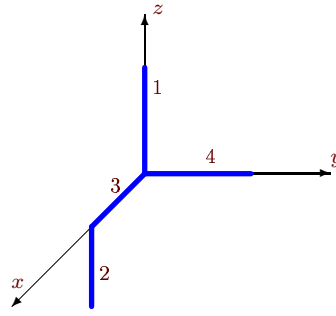
4



$$l_1 = 9, l_2 = 12, l_3 = 15, l_4 = 18.$$

Задача S-21.26.

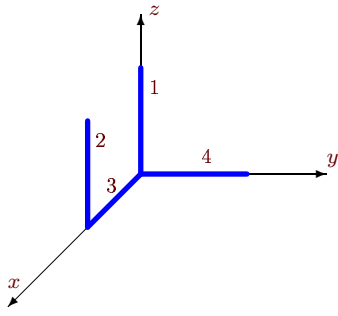
4



$$l_1 = 20, l_2 = 20, l_3 = 8, l_4 = 16.$$

Задача S-21.27.

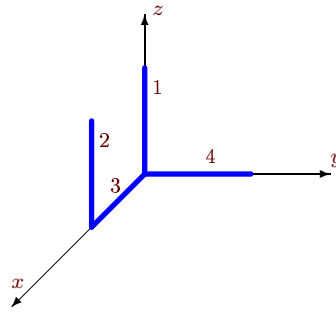
4



$$l_1 = 10, l_2 = 10, l_3 = 20, l_4 = 10.$$

Задача S-21.28.

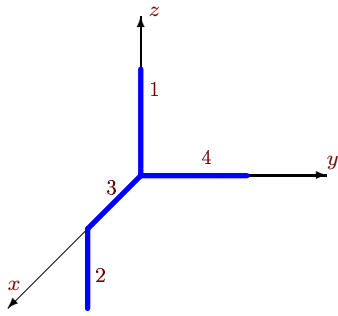
4



$$l_1 = 6, l_2 = 6, l_3 = 12, l_4 = 12.$$

Задача S-21.29.

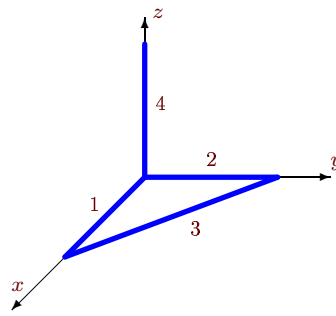
4



$$l_1 = 20, l_2 = 20, l_3 = 8, l_4 = 16.$$

Задача S-21.30.

4



$$l_1 = 9, l_2 = 12, l_3 = 15, l_4 = 18.$$

**Ответы.**

**Центр тяжести пространственной стержневой фигуры**

17.02.2015

	$x_c$	$y_c$	$z_c$	$L$
1	2	2	5	36
2	2	1	0	18
3	1	4	-2	50
4	4	2	1	36
5	2	3	3	54
6	8	2	1	64
7	1	1	7	32
8	5	1	3	50
9	1	4	-2	72
10	4	1	6	50
11	1	1	5	32
12	1	4	2	50
13	1	4	1	72
14	1	1	5	32
15	4	8	5	64
16	2	4	0	32
17	8	5	5	72
18	8	4	2	72
19	2	2	3	36
20	8	4	15	98
21	8	1	15	72
22	12	1	5	72
23	2	3	3	54
24	2	1	2	32
25	2	3	3	54
26	3	2	0	64
27	8	1	2	50
28	4	2	1	36
29	3	2	0	64
30	2	3	3	54

S-21 файл o21s4A