

# 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.** 9

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

**Задача S-21.2.** 9

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

**Задача S-21.3.** 9

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

**Задача S-21.4.** 9

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

**Задача S-21.5.** 9

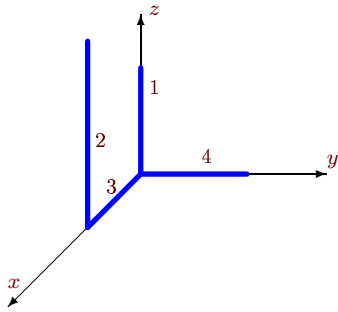
$l_1 = 9, l_2 = 12, l_3 = 15, l_4 = 18.$

**Задача S-21.6.** 9

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

Задача S-21.7.

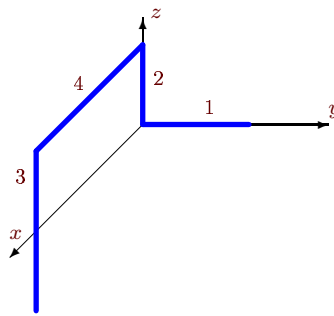
3



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

Задача S-21.8.

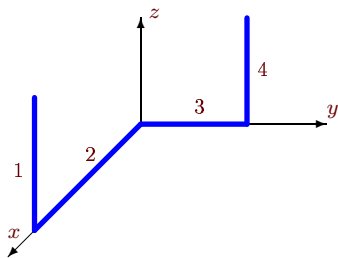
3



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

Задача S-21.9.

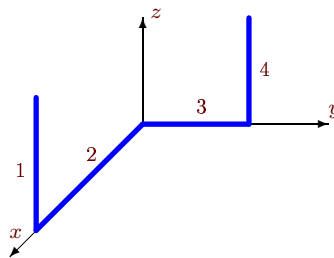
3



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

Задача S-21.10.

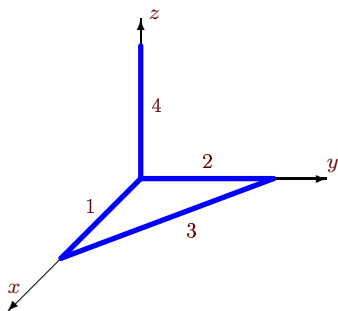
3



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

Задача S-21.11.

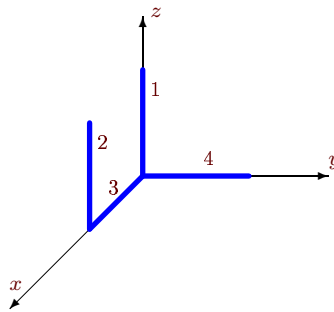
3



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

Задача S-21.12.

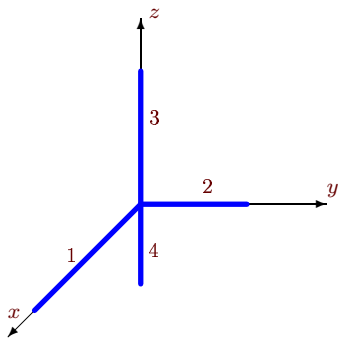
3



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

Задача S-21.13.

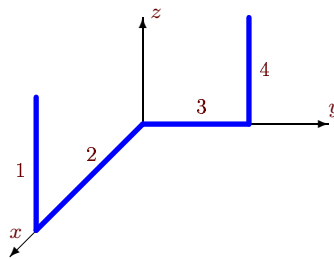
3



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

Задача S-21.14.

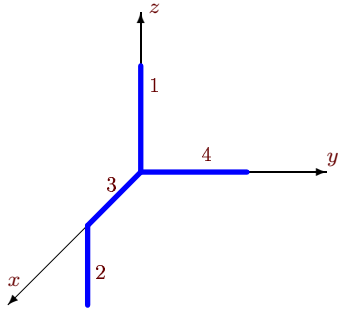
3



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

Задача S-21.15.

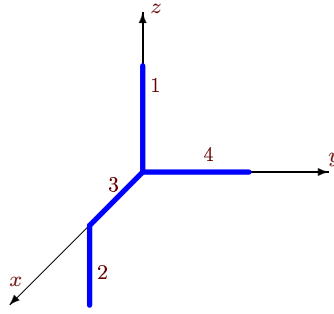
3



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

Задача S-21.16.

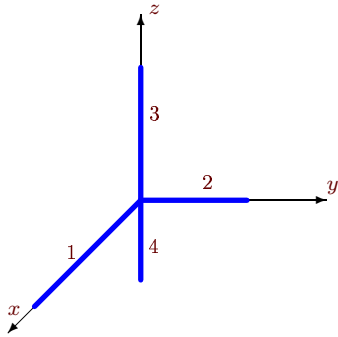
3



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

Задача S-21.17.

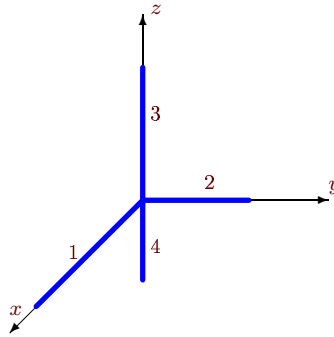
3



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

Задача S-21.18.

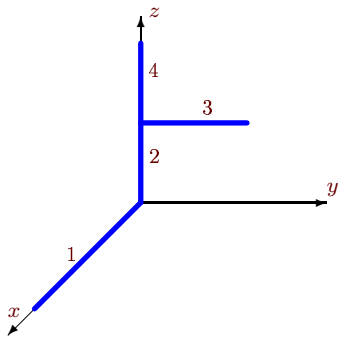
3



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

Задача S-21.19.

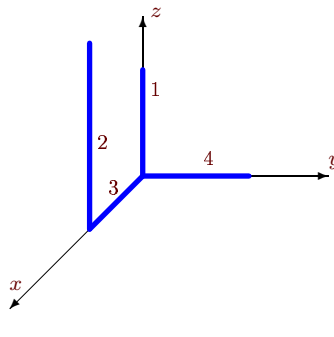
3



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

Задача S-21.20.

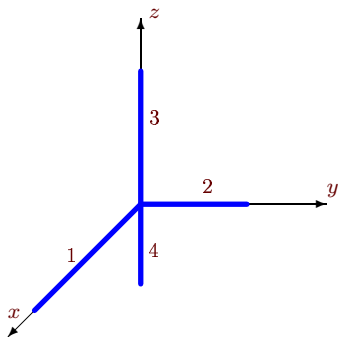
3



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

Задача S-21.21.

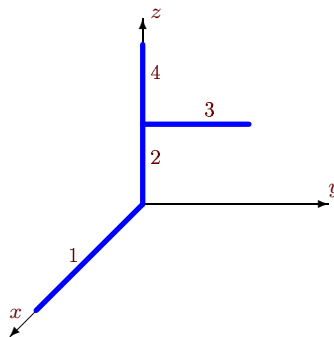
3



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

Задача S-21.22.

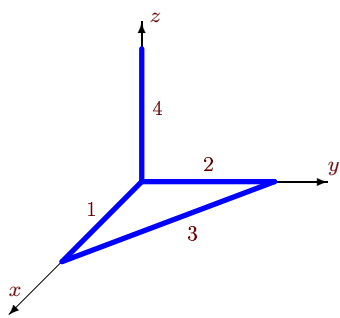
3



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

Задача S-21.23.

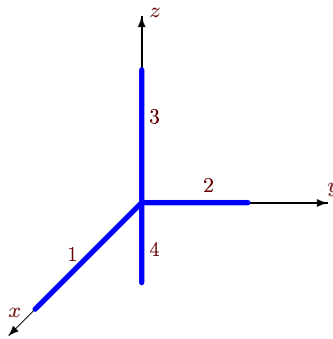
3



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

Задача S-21.24.

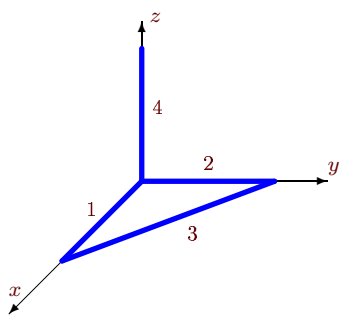
3



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

Задача S-21.25.

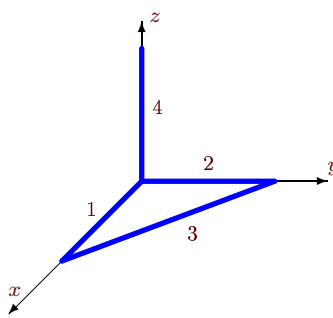
3



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

Задача S-21.26.

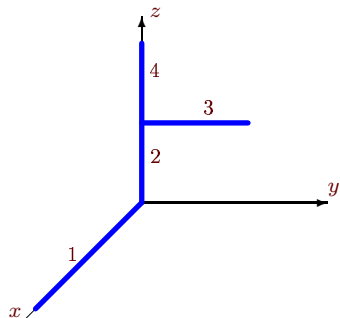
3



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

Задача S-21.27.

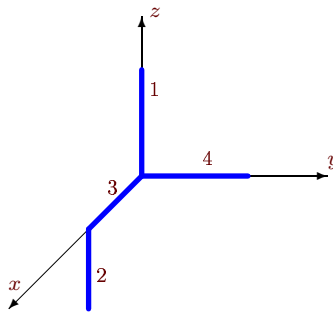
3



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

Задача S-21.28.

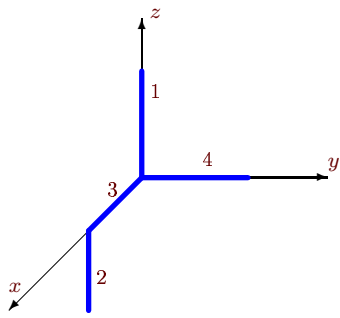
3



$l_1 = 2, l_2 = 2, l_3 = 4, l_4 = 8.$

Задача S-21.29.

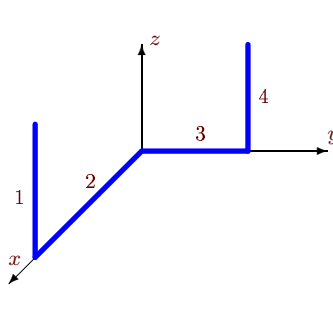
3



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

Задача S-21.30.

3



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

**Ответы.**

**Центр тяжести пространственной стержневой фигуры**

17.02.2015

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

S-21 файл о21s3A