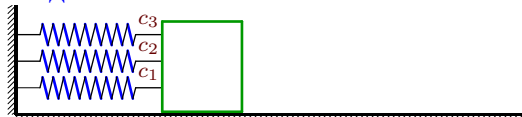


Свободное колебание точки

Груз массой m расположен на гладкой горизонтальной плоскости и скреплен с тремя пружинами, жесткости которых заданы. Определить частоту собственных колебаний груза. Массой пружин пренебречь. В ответах дана приведенная жесткость пружин c_0 и частота k .

Задача D23.1.

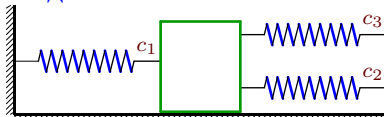
3



$$c_1 = 2 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 6 \text{ кг}.$$

Задача D23.2.

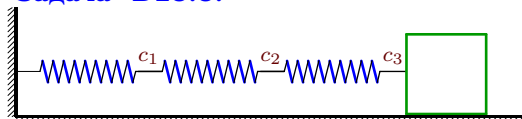
3



$$c_1 = 2 \text{ Н/м}, c_2 = 7 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 6 \text{ кг}.$$

Задача D23.3.

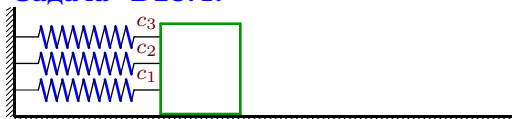
3



$$c_1 = 5 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.4.

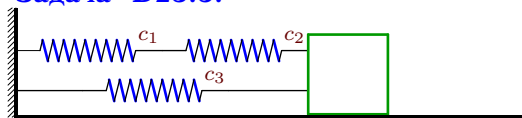
3



$$c_1 = 2 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.5.

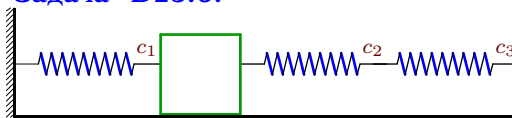
3



$$c_1 = 3 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 7 \text{ кг}.$$

Задача D23.6.

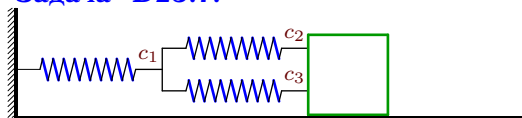
3



$$c_1 = 1 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.7.

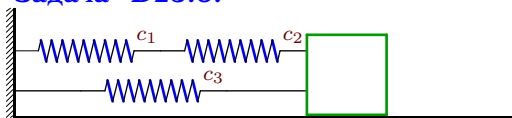
3



$$c_1 = 3 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 9 \text{ кг}.$$

Задача D23.8.

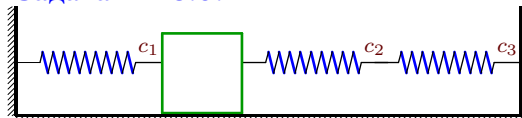
3



$$c_1 = 8 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.9.

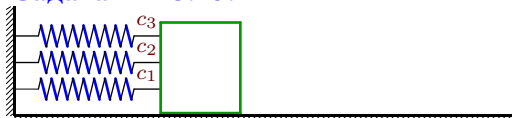
3



$$c_1 = 3 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 6 \text{ кг}.$$

Задача D23.10.

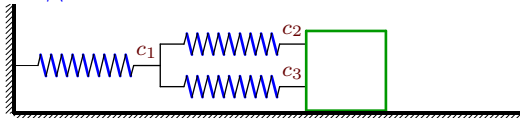
3



$$c_1 = 1 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 4 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.11.

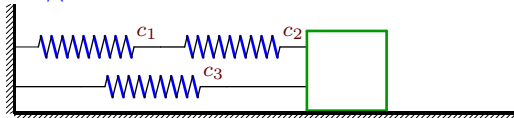
3



$$c_1 = 8 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.12.

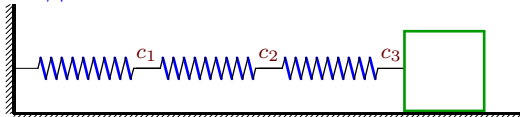
3



$$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.13.

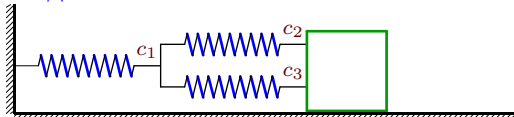
3



$$c_1 = 4 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 5 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.14.

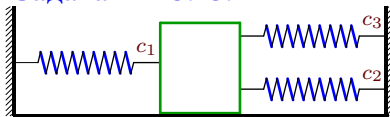
3



$$c_1 = 3 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.15.

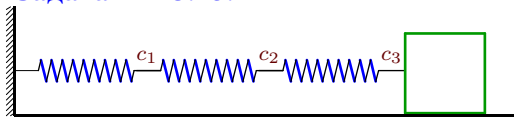
3



$$c_1 = 1 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.16.

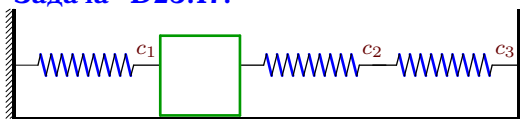
3



$$c_1 = 8 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 4 \text{ Н/м}, m = 7 \text{ кг}.$$

Задача D23.17.

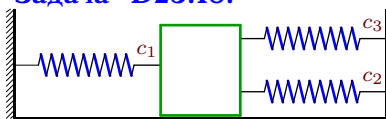
3



$$c_1 = 8 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.18.

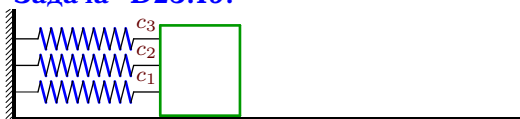
3



$$c_1 = 3 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.19.

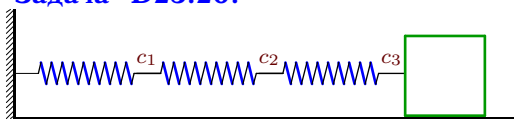
3



$$c_1 = 1 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.20.

3



$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.21.

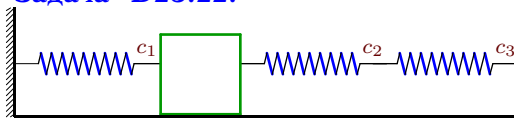
3



$$c_1 = 8 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.22.

3



$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.23.

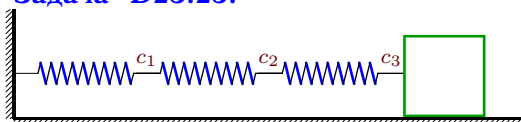
3



$$c_1 = 8 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 4 \text{ кг}.$$

Задача D23.25.

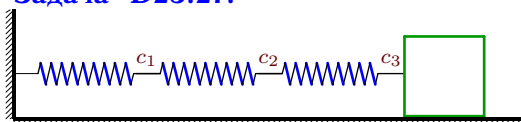
3



$$c_1 = 1 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.27.

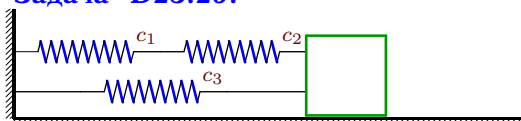
3



$$c_1 = 5 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.29.

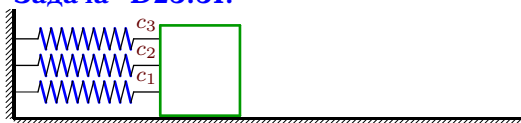
3



$$c_1 = 1 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.31.

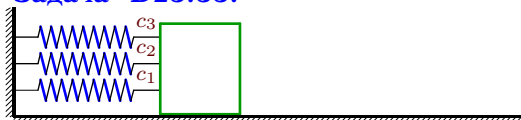
3



$$c_1 = 4 \text{ Н/м}, c_2 = 7 \text{ Н/м}, \\ c_3 = 5 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.33.

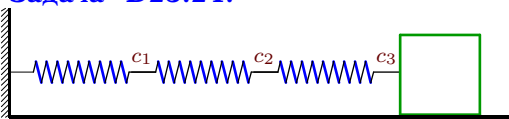
3



$$c_1 = 5 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 5 \text{ кг}.$$

Задача D23.24.

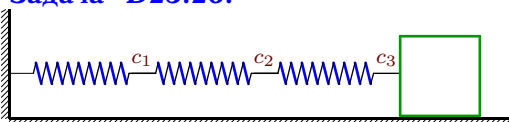
3



$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.26.

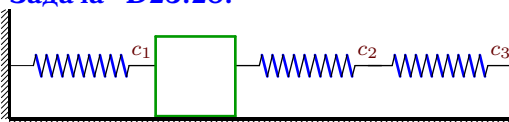
3



$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 6 \text{ кг}.$$

Задача D23.28.

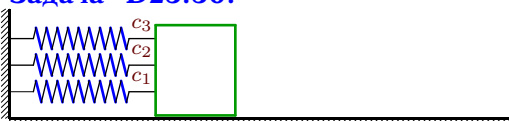
3



$$c_1 = 8 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 4 \text{ Н/м}, m = 9 \text{ кг}.$$

Задача D23.30.

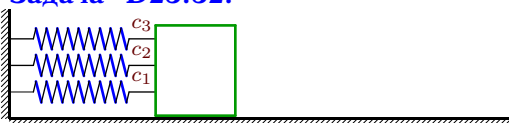
3



$$c_1 = 1 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 5 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.32.

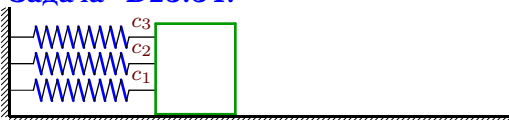
3



$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 6 \text{ Н/м}, m = 6 \text{ кг}.$$

Задача D23.34.

3



$$c_1 = 4 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 3 \text{ кг}.$$

D23 Ответы.**Свободное колебание точки**

23.03.2012

№	c_0 , Н/м	k , с ⁻¹
1	7.000	1.080
2	11.000	1.354
3	0.652	0.808
4	7.000	1.183
5	2.200	0.561
6	2.714	1.648
7	0.667	0.272
8	4.600	1.238
9	5.400	0.949
10	10.000	3.162
11	0.375	0.274
12	3.667	1.915
13	1.277	0.799
14	0.667	0.577
15	6.000	1.414
16	0.727	0.322
17	8.667	1.317
18	6.000	1.414
19	7.000	1.183
20	1.277	0.799
21	18.000	3.000
22	6.727	1.160
23	14.000	1.871
24	1.091	0.739
25	0.545	0.522
26	1.622	0.520
27	0.690	0.371
28	8.800	0.989
29	1.667	1.291
30	8.000	1.633
31	16.000	2.828
32	15.000	1.581
33	11.000	1.483
34	7.000	1.528

D23 файл о23d3A