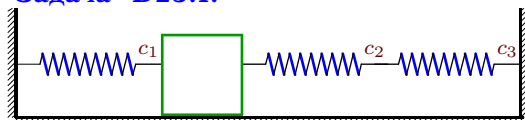


Свободное колебание точки

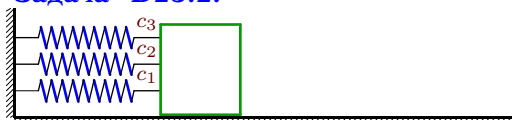
Груз массой m расположен на гладкой горизонтальной плоскости и скреплен с тремя пружинами, жесткости которых заданы. Определить частоту собственных колебаний груза. Массой пружин пренебречь. В ответах дана приведенная жесткость c_0 и частота k .

Задача D23.1.



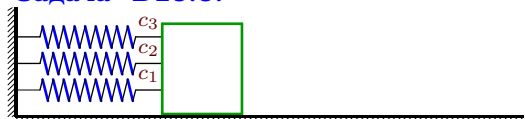
$$c_1 = 62.8 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 4 \text{ Н/м}, m = 1 \text{ кг.}$$

Задача D23.2.



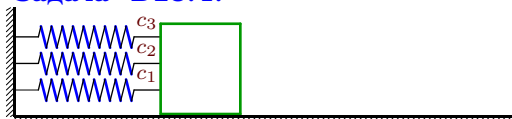
$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 2 \text{ кг.}$$

Задача D23.3.



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

Задача D23.4.



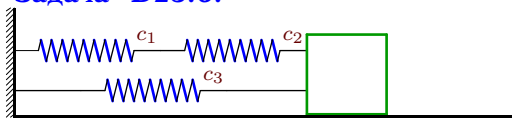
$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 3 \text{ кг.}$$

Задача D23.5.



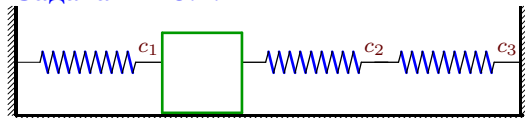
$$c_1 = 4 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг.}$$

Задача D23.6.



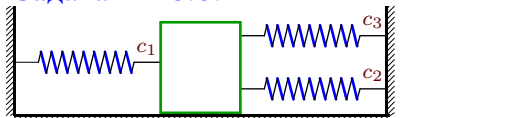
$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 299 \text{ Н/м}, m = 3 \text{ кг.}$$

Задача D23.7.



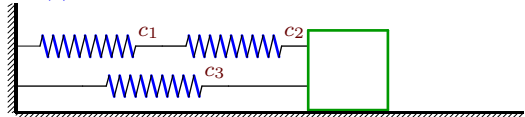
$$c_1 = 62.8 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг.}$$

Задача D23.8.



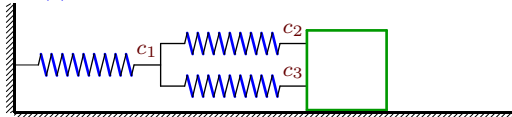
$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 2 \text{ кг.}$$

Задача D23.9.



$$c_1 = 1 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 71.7 \text{ Н/м}, m = 2 \text{ кг.}$$

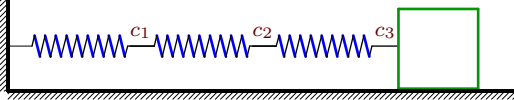
Задача D23.10.



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

Задача D23.11.

1

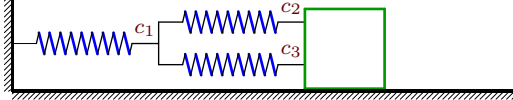


$$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

$$c_3 = 3 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.12.

1

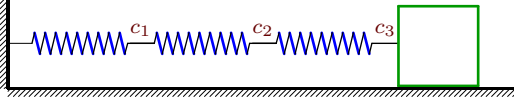


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.13.

1

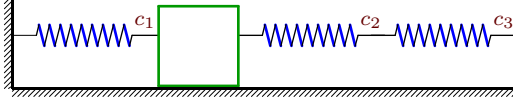


$$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.14.

1

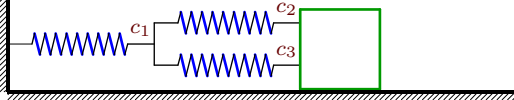


$$c_1 = 127.6 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.15.

1

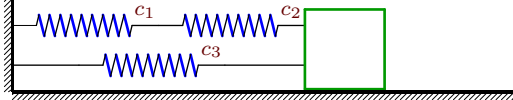


$$c_1 = 2 \text{ Н/м}, c_2 = 3 \text{ Н/м},$$

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

Задача D23.16.

1

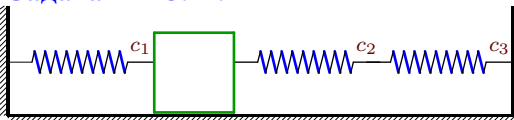


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

$$c_3 = 143.2 \text{ Н/м}, m = 4 \text{ кг}.$$

Задача D23.17.

1

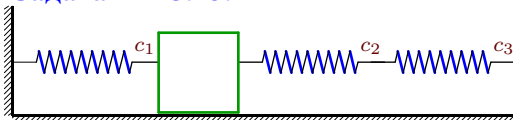


$$c_1 = 195 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.18.

1

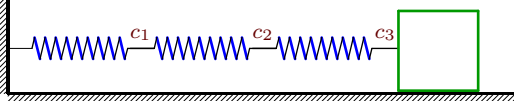


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.19.

1

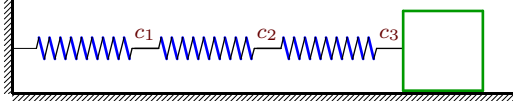


$$c_1 = 3 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.20.

1

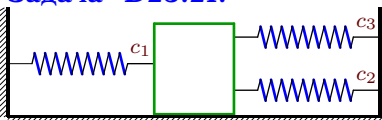


$$c_1 = 1 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.21.

1

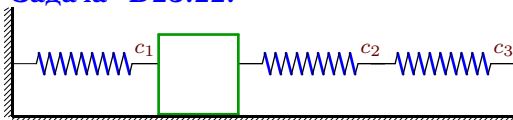


$$c_1 = 3 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.22.

1

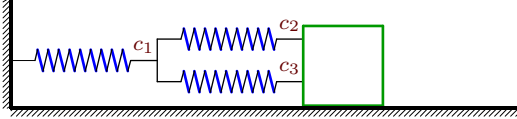


$$c_1 = 190.5 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

$$c_3 = 3 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.23.

1

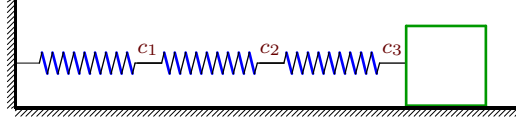


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.24.

1

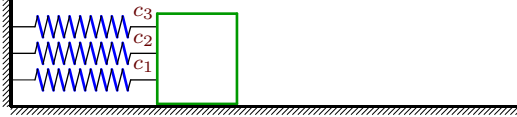


$$c_1 = 6 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.25.

1

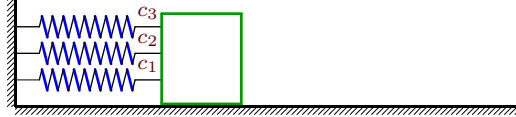


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.26.

1

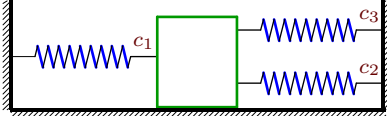


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.27.

1

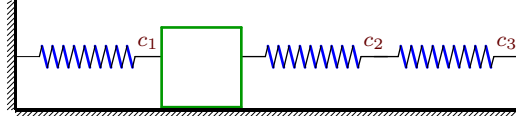


$$c_1 = 3 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.28.

1

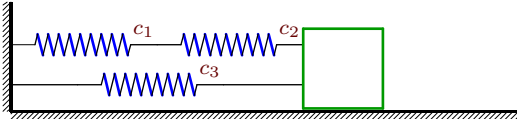


$$c_1 = 127.6 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.29.

1

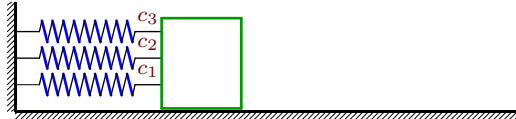


$$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

$$c_3 = 106 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.30.

1

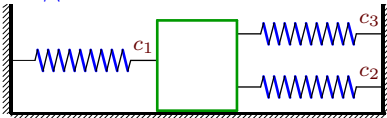


$$c_1 = 6 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.31.

1

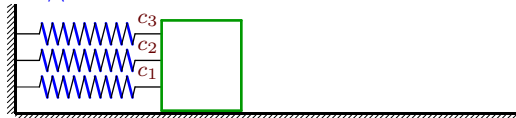


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.32.

1

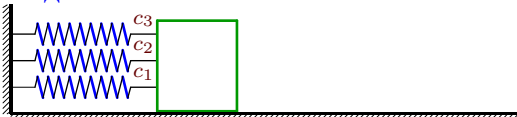


$$c_1 = 3 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.33.

1

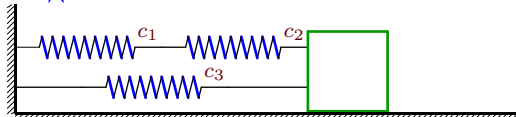


$$c_1 = 4 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.34.

1



$$c_1 = 6 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

$$c_3 = 126.8 \text{ Н/м}, m = 2 \text{ кг}.$$

D23 Ответы.**Свободное колебание точки**

10.07.2012

№	c_0 , Н/м	k , с ⁻¹
1	64.514	8.032
2	12.000	2.449
3	7.000	2.646
4	12.000	2.000
5	8.000	2.828
6	300.429	10.007
7	64.514	8.032
8	10.000	2.236
9	72.450	6.019
10	2.769	0.832
11	0.545	0.426
12	1.500	0.707
13	0.545	0.369
14	128.400	8.012
15	1.429	0.690
16	144.533	6.011
17	196.429	7.008
18	4.222	2.055
19	0.968	0.492
20	0.400	0.447
21	9.000	1.732
22	192.375	8.008
23	1.600	1.265
24	1.000	0.500
25	8.000	1.633
26	9.000	3.000
27	8.000	2.000
28	128.400	8.012
29	108.222	6.006
30	9.000	3.000
31	7.000	1.323
32	11.000	1.658
33	8.000	2.000
34	128.300	8.009

D23 файл о23d1B