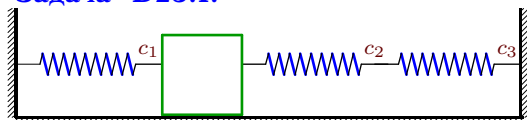


Свободное колебание точки

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.

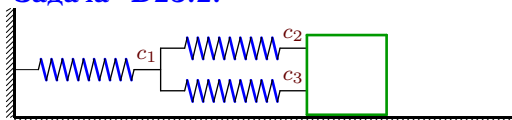
2



$$c_1 = 24.4 \text{ Н/м}, c_2 = 2 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг.}$$

Задача D23.2.

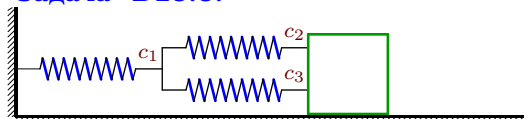
2



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

Задача D23.3.

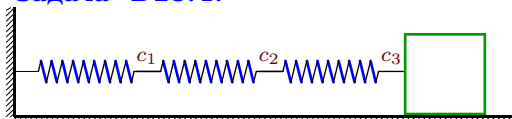
2



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

Задача D23.4.

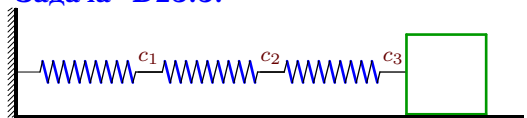
2



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

Задача D23.5.

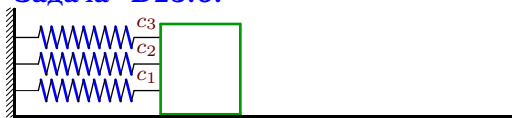
2



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

Задача D23.6.

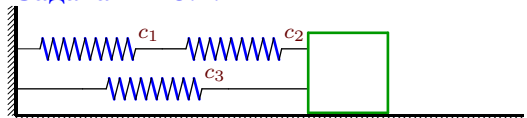
2



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

Задача D23.7.

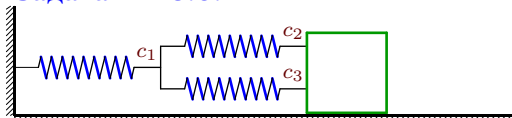
2



$$c_1 = 2 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 26.4 \text{ Н/м}, m = 3 \text{ кг.}$$

Задача D23.8.

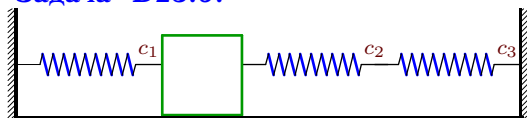
2



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

Задача D23.9.

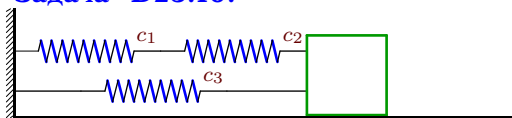
2



$$c_1 = 98.5 \text{ Н/м}, c_2 = 5 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 1 \text{ кг.}$$

Задача D23.10.

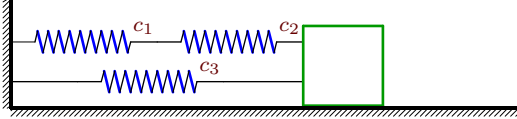
2



$$c_1 = 6 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 0.6 \text{ Н/м}, m = 3 \text{ кг.}$$

Задача D23.11.

2

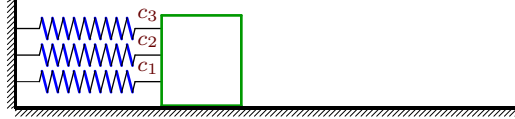


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

$$c_3 = 2.2 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.12.

2

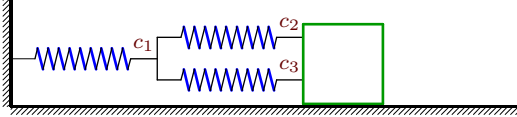


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.13.

2

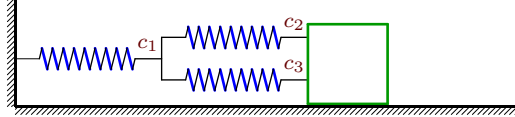


$$c_1 = 4 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.14.

2

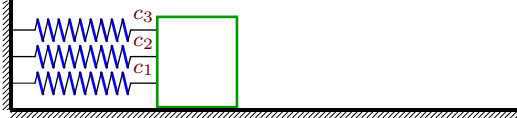


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.15.

2

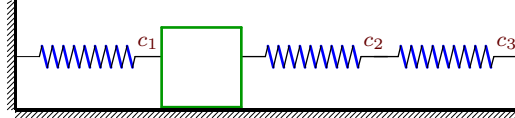


$$c_1 = 3 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.16.

2

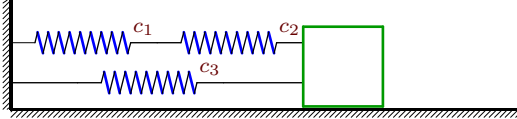


$$c_1 = 199.5 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.17.

2

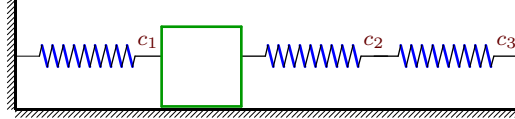


$$c_1 = 4 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

$$c_3 = 242.2 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.18.

2

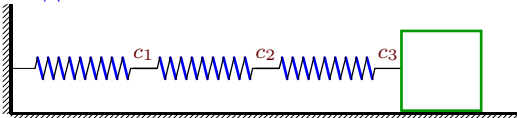


$$c_1 = 80.8 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.19.

2

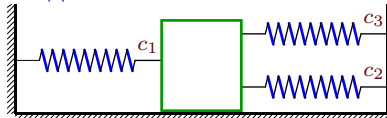


$$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.20.

2

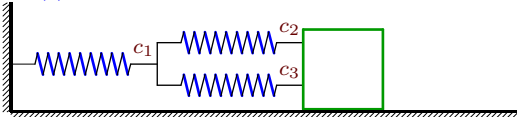


$$c_1 = 6 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.21.

2

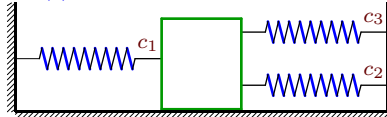


$$c_1 = 3 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.22.

2

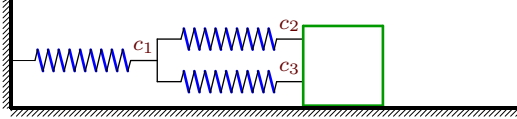


$$c_1 = 4 \text{ Н/м}, c_2 = 3 \text{ Н/м},$$

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

Задача D23.23.

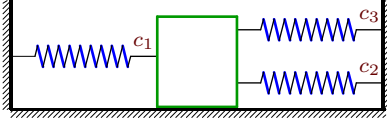
2



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

Задача D23.25.

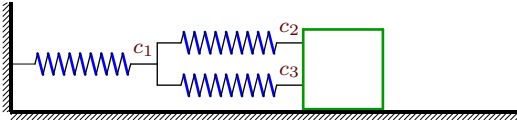
2



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

Задача D23.27.

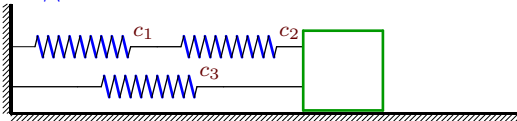
2



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

Задача D23.29.

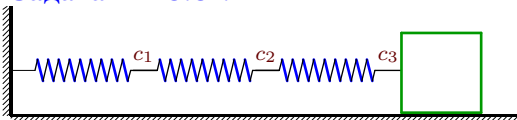
2



$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м},$
 $c_3 = 143.8 \text{ Н/м}, m = 4 \text{ кг}.$

Задача D23.31.

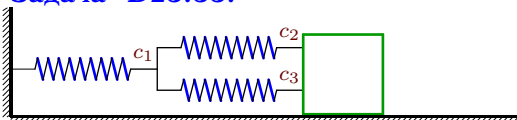
2



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

Задача D23.33.

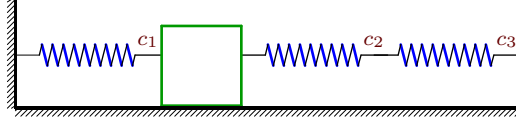
2



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

Задача D23.24.

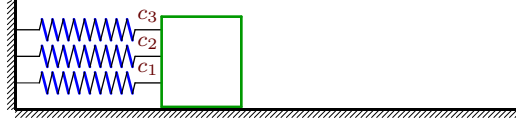
2



$c_1 = 25 \text{ Н/м}, c_2 = 5 \text{ Н/м},$
 $c_3 = 4 \text{ Н/м}, m = 3 \text{ кг}.$

Задача D23.26.

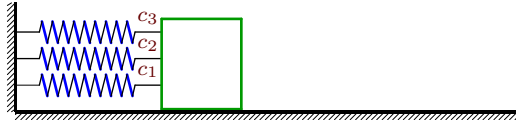
2



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

Задача D23.28.

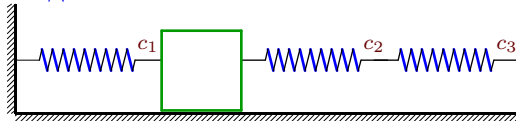
2



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

Задача D23.30.

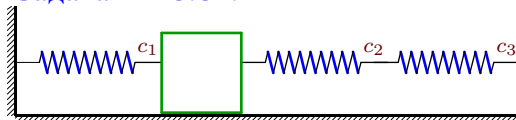
2



$c_1 = 299.6 \text{ Н/м}, c_2 = 4 \text{ Н/м},$
 $c_3 = 1 \text{ Н/м}, m = 3 \text{ кг}.$

Задача D23.32.

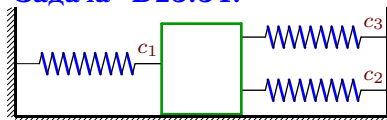
2



$c_1 = 15.8 \text{ Н/м}, c_2 = 2 \text{ Н/м},$
 $c_3 = 1 \text{ Н/м}, m = 4 \text{ кг}.$

Задача D23.34.

2



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

D23 Ответы.**Свободное колебание точки**

10.07.2012

№	c_0 , Н/м	k , с ⁻¹
1	25.600	5.060
2	0.857	0.535
3	0.857	0.655
4	0.632	0.397
5	0.632	0.459
6	9.000	1.500
7	27.600	3.033
8	2.222	0.745
9	100.375	10.019
10	3.000	1.000
11	3.533	1.085
12	11.000	1.658
13	2.222	1.054
14	1.429	0.690
15	7.000	1.323
16	200.333	10.008
17	243.533	9.010
18	81.467	9.026
19	0.545	0.522
20	10.000	3.162
21	1.714	0.926
22	11.000	2.345
23	2.100	0.837
24	27.222	3.012
25	12.000	2.449
26	7.000	1.323
27	2.000	0.707
28	9.000	2.121
29	144.467	6.010
30	300.400	10.007
31	0.455	0.674
32	16.467	2.029
33	1.333	0.577
34	6.000	1.225

D23 файл о23d2B