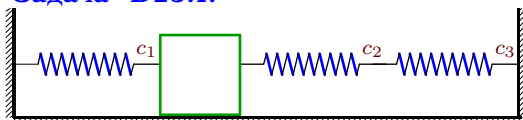


Свободное колебание точки

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.

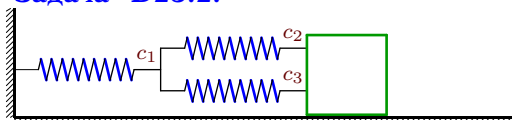
4



$$c_1 = 47.8 \text{ Н/м}, c_2 = 1 \text{ Н/м}, \\ c_3 = 2 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.2.

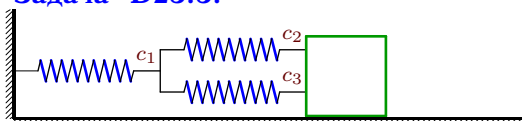
4



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

Задача D23.3.

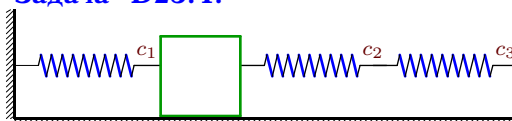
4



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

Задача D23.4.

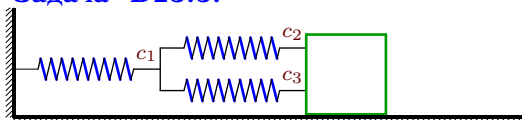
4



$$c_1 = 35.7 \text{ Н/м}, c_2 = 3 \text{ Н/м}, \\ c_3 = 1 \text{ Н/м}, m = 4 \text{ кг}.$$

Задача D23.5.

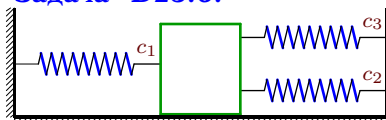
4



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

Задача D23.6.

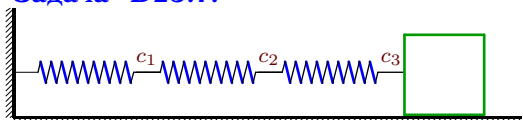
4



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

Задача D23.7.

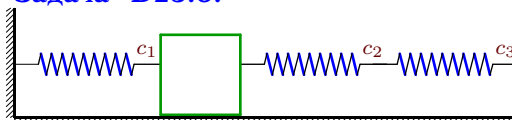
4



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

Задача D23.8.

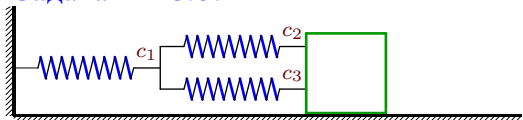
4



$$c_1 = 96.8 \text{ Н/м}, c_2 = 4 \text{ Н/м}, \\ c_3 = 3 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.9.

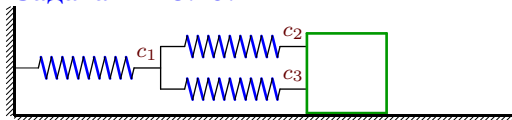
4



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

Задача D23.10.

4



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

Задача D23.11.

4

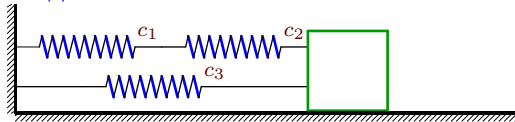


$$c_1 = 1 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.12.

4

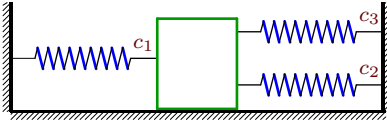


$$c_1 = 3 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

$$c_3 = 161.7 \text{ Н/м}, m = 2 \text{ кг}.$$

Задача D23.13.

4

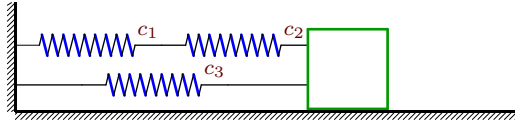


$$c_1 = 6 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.14.

4

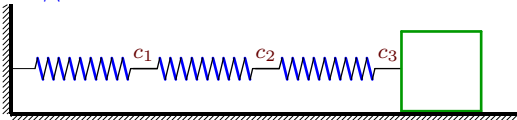


$$c_1 = 4 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

$$c_3 = 48.6 \text{ Н/м}, m = 1 \text{ кг}.$$

Задача D23.15.

4

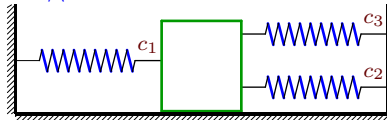


$$c_1 = 4 \text{ Н/м}, c_2 = 1 \text{ Н/м},$$

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

Задача D23.16.

4

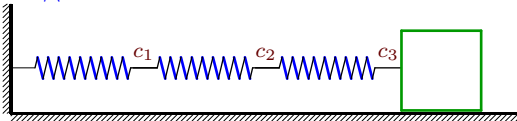


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

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

Задача D23.17.

4

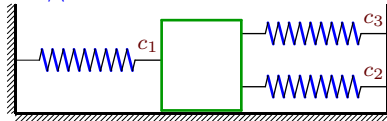


$$c_1 = 1 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.18.

4

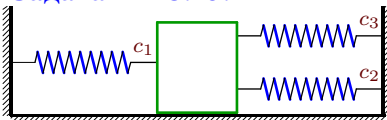


$$c_1 = 4 \text{ Н/м}, c_2 = 2 \text{ Н/м},$$

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

Задача D23.19.

4

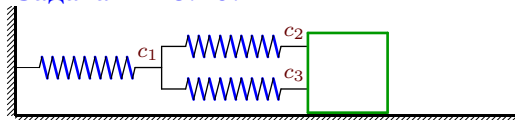


$$c_1 = 3 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.20.

4

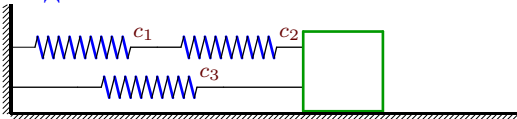


$$c_1 = 2 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.21.

4

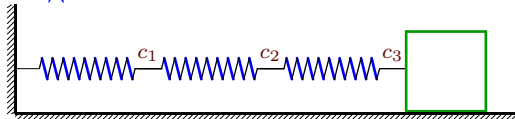


$$c_1 = 2 \text{ Н/м}, c_2 = 5 \text{ Н/м},$$

$$c_3 = 74 \text{ Н/м}, m = 3 \text{ кг}.$$

Задача D23.22.

4

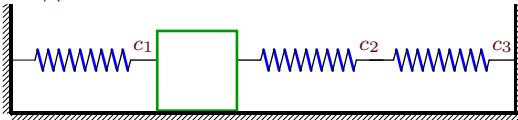


$$c_1 = 3 \text{ Н/м}, c_2 = 4 \text{ Н/м},$$

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

Задача D23.23.

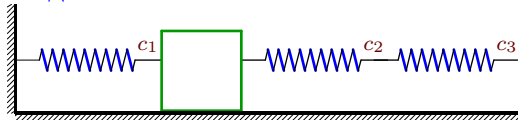
4



$c_1 = 160.8 \text{ Н/м}, c_2 = 4 \text{ Н/м},$
 $c_3 = 3 \text{ Н/м}, m = 2 \text{ кг}.$

Задача D23.24.

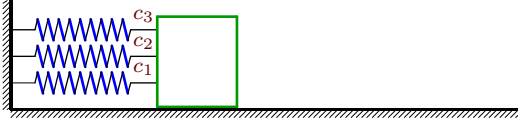
4



$c_1 = 0.7 \text{ Н/м}, c_2 = 1 \text{ Н/м},$
 $c_3 = 3 \text{ Н/м}, m = 1 \text{ кг}.$

Задача D23.25.

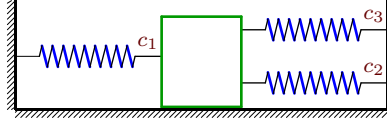
4



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

Задача D23.26.

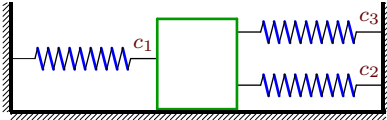
4



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

Задача D23.27.

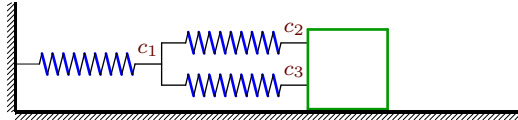
4



$c_1 = 6 \text{ Н/м}, c_2 = 1 \text{ Н/м},$
 $c_3 = 4 \text{ Н/м}, m = 2 \text{ кг}.$

Задача D23.28.

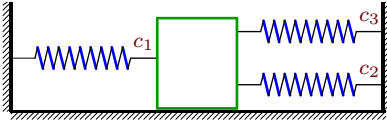
4



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

Задача D23.29.

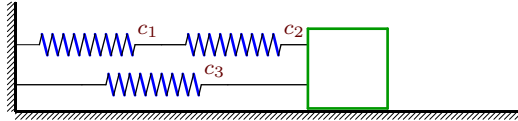
4



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

Задача D23.30.

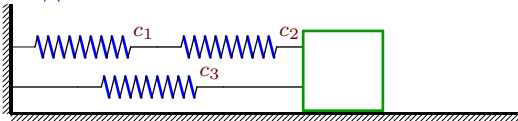
4



$c_1 = 2 \text{ Н/м}, c_2 = 1 \text{ Н/м},$
 $c_3 = 48.8 \text{ Н/м}, m = 1 \text{ кг}.$

Задача D23.31.

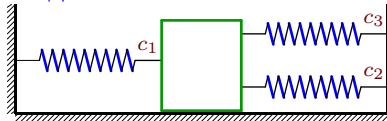
4



$c_1 = 4 \text{ Н/м}, c_2 = 5 \text{ Н/м},$
 $c_3 = 16 \text{ Н/м}, m = 2 \text{ кг}.$

Задача D23.32.

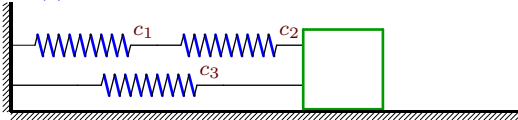
4



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

Задача D23.33.

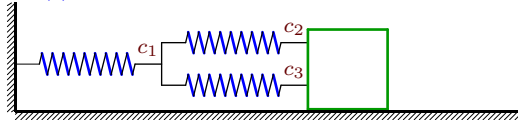
4



$c_1 = 4 \text{ Н/м}, c_2 = 2 \text{ Н/м},$
 $c_3 = 49.2 \text{ Н/м}, m = 2 \text{ кг}.$

Задача D23.34.

4



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

D23 Ответы.**Свободное колебание точки**

10.07.2012

№	c_0 , Н/м	k , с ⁻¹
1	48.467	4.019
2	1.429	1.195
3	2.400	0.775
4	36.450	3.019
5	0.875	0.468
6	12.000	1.732
7	1.000	0.577
8	98.514	7.018
9	1.200	1.095
10	0.750	0.612
11	9.000	3.000
12	162.450	9.012
13	11.000	2.345
14	49.400	7.029
15	0.632	0.795
16	9.000	1.732
17	0.571	0.436
18	7.000	1.528
19	8.000	2.000
20	1.556	1.247
21	75.429	5.014
22	0.632	0.795
23	162.514	9.014
24	1.450	1.204
25	7.000	1.528
26	8.000	1.633
27	11.000	2.345
28	0.833	0.456
29	12.000	1.732
30	49.467	7.033
31	18.222	3.018
32	7.000	1.528
33	50.533	5.027
34	0.833	0.456

D23 файл о23d4B