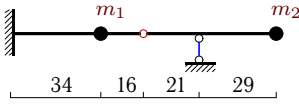


Колебания грузов на упругой балке

Найти собственные частоты колебаний грузов на упругой балке. Принять жесткость балки на изгиб $EJ = 1000 \text{ Нм}^2$. Размеры даны в сантиметрах.

Задача 35.1.

3

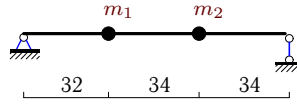


$$m_1 = 11 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.2.

3

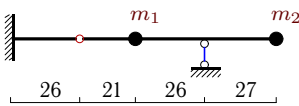


$$m_1 = 5 \text{ кг},$$

$$m_2 = 7 \text{ кг}.$$

Задача 35.3.

3

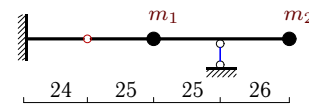


$$m_1 = 6 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.4.

3

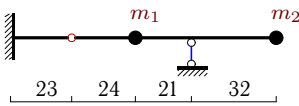


$$m_1 = 12 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.5.

3

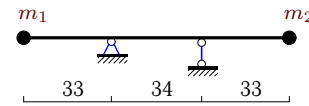


$$m_1 = 10 \text{ кг},$$

$$m_2 = 13 \text{ кг}.$$

Задача 35.6.

3

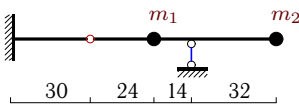


$$m_1 = 8 \text{ кг},$$

$$m_2 = 6 \text{ кг}.$$

Задача 35.7.

3

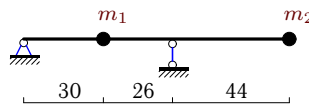


$$m_1 = 10 \text{ кг},$$

$$m_2 = 5 \text{ кг}.$$

Задача 35.8.

3

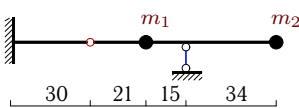


$$m_1 = 11 \text{ кг},$$

$$m_2 = 7 \text{ кг}.$$

Задача 35.9.

3

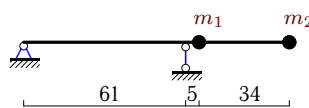


$$m_1 = 4 \text{ кг},$$

$$m_2 = 7 \text{ кг}.$$

Задача 35.10.

3

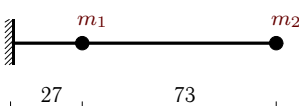


$$m_1 = 13 \text{ кг},$$

$$m_2 = 14 \text{ кг}.$$

Задача 35.11.

3

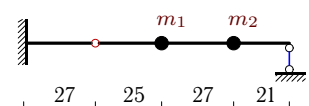


$$m_1 = 12 \text{ кг},$$

$$m_2 = 13 \text{ кг}.$$

Задача 35.12.

3

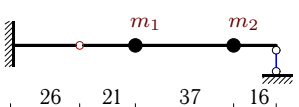


$$m_1 = 5 \text{ кг},$$

$$m_2 = 11 \text{ кг}.$$

Задача 35.13.

3

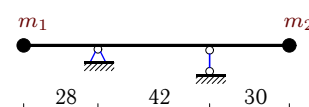


$$m_1 = 11 \text{ кг},$$

$$m_2 = 7 \text{ кг}.$$

Задача 35.14.

3

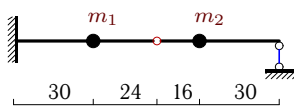


$$m_1 = 13 \text{ кг},$$

$$m_2 = 14 \text{ кг}.$$

Задача 35.15.

3

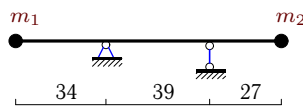


$$m_1 = 13 \text{ кг,}$$

$$m_2 = 5 \text{ кг.}$$

Задача 35.16.

3

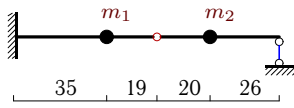


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 9 \text{ кг.}$$

Задача 35.17.

3

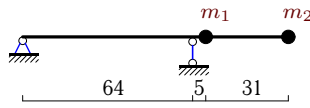


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 6 \text{ кг.}$$

Задача 35.18.

3

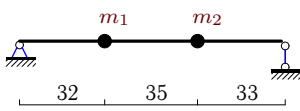


$$m_1 = 8 \text{ кг,}$$

$$m_2 = 7 \text{ кг.}$$

Задача 35.19.

3

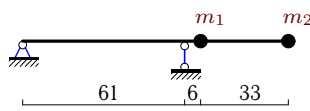


$$m_1 = 4 \text{ кг,}$$

$$m_2 = 5 \text{ кг.}$$

Задача 35.20.

3

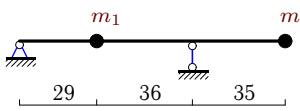


$$m_1 = 6 \text{ кг,}$$

$$m_2 = 10 \text{ кг.}$$

Задача 35.21.

3

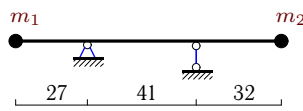


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 12 \text{ кг.}$$

Задача 35.22.

3

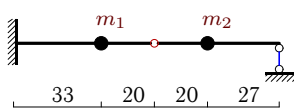


$$m_1 = 10 \text{ кг,}$$

$$m_2 = 7 \text{ кг.}$$

Задача 35.23.

3

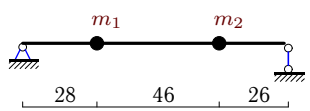


$$m_1 = 6 \text{ кг,}$$

$$m_2 = 7 \text{ кг.}$$

Задача 35.24.

3

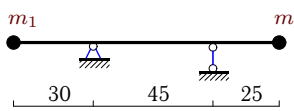


$$m_1 = 4 \text{ кг,}$$

$$m_2 = 13 \text{ кг.}$$

Задача 35.25.

3

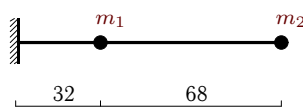


$$m_1 = 7 \text{ кг,}$$

$$m_2 = 4 \text{ кг.}$$

Задача 35.26.

3

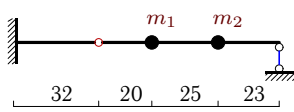


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 6 \text{ кг.}$$

Задача 35.27.

3

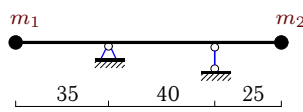


$$m_1 = 5 \text{ кг,}$$

$$m_2 = 6 \text{ кг.}$$

Задача 35.28.

3



$$m_1 = 9 \text{ кг,}$$

$$m_2 = 6 \text{ кг.}$$

Колебания грузов на упругой балке

	δ_{11}	δ_{12}	δ_{22}	ω_1	ω_2
	см ³			рад/с	
1	13.101	30.863	93.476	203.076	45.003
2	15.783	14.180	16.785	287.180	73.664
3	3.907	-5.417	19.915	278.463	105.287
4	3.756	-5.261	18.371	222.703	100.811
5	2.765	-5.467	28.334	245.441	51.341
6	24.321	6.171	24.321	90.887	67.507
7	2.212	-5.716	30.276	308.295	78.332
8	3.621	8.784	64.533	196.557	46.340
9	2.481	-6.368	35.001	438.929	63.278
10	0.550	4.432	50.700	690.189	37.402
11	6.561	33.169	333.333	160.609	15.122
12	9.412	6.351	5.988	344.305	97.827
13	8.585	4.524	4.153	311.055	93.999
14	18.293	5.880	21.600	73.629	53.018
15	9.000	12.913	23.994	263.826	67.024
16	28.129	5.967	16.038	89.369	55.169
17	14.292	14.656	18.728	270.843	62.507
18	0.575	4.269	43.200	908.610	57.186
19	15.783	13.881	16.295	323.556	86.048
20	0.804	5.424	50.700	866.072	44.259
21	5.589	8.807	40.833	160.556	44.164
22	16.524	5.904	24.917	91.203	67.506
23	11.979	13.138	18.445	306.102	72.487
24	13.548	10.362	12.339	252.960	70.893
25	22.500	5.625	14.583	141.301	77.674
26	10.923	45.739	333.333	142.328	21.975
27	9.960	6.774	6.501	380.413	110.503
28	30.625	5.833	13.542	117.674	59.270