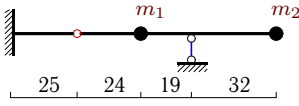


Колебания грузов на упругой балке

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.

2

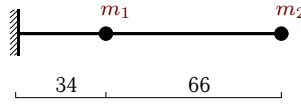


$$m_1 = 5 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.2.

2

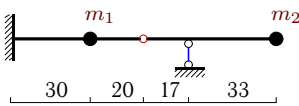


$$m_1 = 11 \text{ кг},$$

$$m_2 = 10 \text{ кг}.$$

Задача 35.3.

2

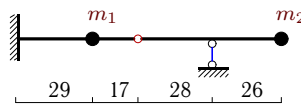


$$m_1 = 11 \text{ кг},$$

$$m_2 = 9 \text{ кг}.$$

Задача 35.4.

2

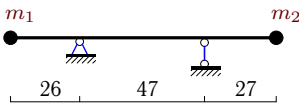


$$m_1 = 6 \text{ кг},$$

$$m_2 = 11 \text{ кг}.$$

Задача 35.5.

2

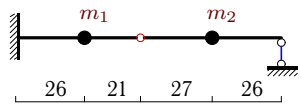


$$m_1 = 4 \text{ кг},$$

$$m_2 = 10 \text{ кг}.$$

Задача 35.6.

2

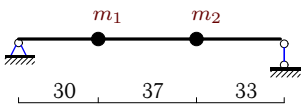


$$m_1 = 12 \text{ кг},$$

$$m_2 = 8 \text{ кг}.$$

Задача 35.7.

2

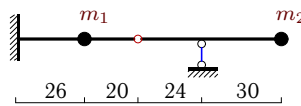


$$m_1 = 13 \text{ кг},$$

$$m_2 = 9 \text{ кг}.$$

Задача 35.8.

2

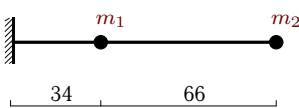


$$m_1 = 5 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.9.

2

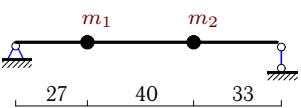


$$m_1 = 6 \text{ кг},$$

$$m_2 = 9 \text{ кг}.$$

Задача 35.10.

2

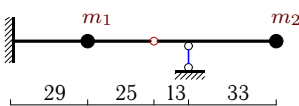


$$m_1 = 12 \text{ кг},$$

$$m_2 = 7 \text{ кг}.$$

Задача 35.11.

2

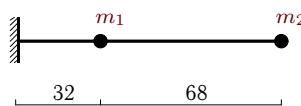


$$m_1 = 12 \text{ кг},$$

$$m_2 = 5 \text{ кг}.$$

Задача 35.12.

2

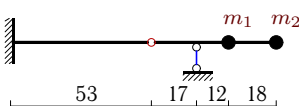


$$m_1 = 8 \text{ кг},$$

$$m_2 = 9 \text{ кг}.$$

Задача 35.13.

2

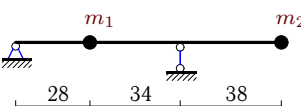


$$m_1 = 6 \text{ кг},$$

$$m_2 = 13 \text{ кг}.$$

Задача 35.14.

2

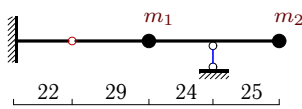


$$m_1 = 5 \text{ кг},$$

$$m_2 = 4 \text{ кг}.$$

Задача 35.15.

2

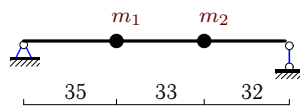


$$m_1 = 7 \text{ кг,}$$

$$m_2 = 6 \text{ кг.}$$

Задача 35.16.

2

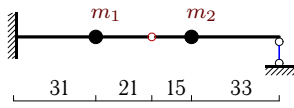


$$m_1 = 12 \text{ кг,}$$

$$m_2 = 13 \text{ кг.}$$

Задача 35.17.

2

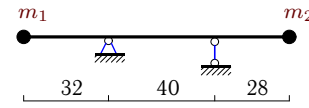


$$m_1 = 12 \text{ кг,}$$

$$m_2 = 11 \text{ кг.}$$

Задача 35.18.

2

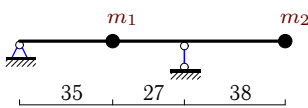


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 7 \text{ кг.}$$

Задача 35.19.

2

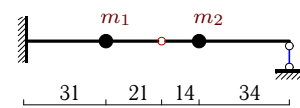


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 5 \text{ кг.}$$

Задача 35.20.

2

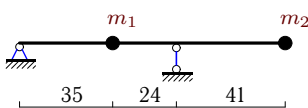


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 9 \text{ кг.}$$

Задача 35.21.

2

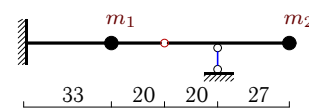


$$m_1 = 6 \text{ кг,}$$

$$m_2 = 7 \text{ кг.}$$

Задача 35.22.

2

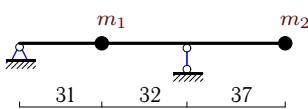


$$m_1 = 13 \text{ кг,}$$

$$m_2 = 8 \text{ кг.}$$

Задача 35.23.

2

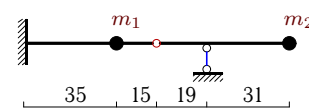


$$m_1 = 6 \text{ кг,}$$

$$m_2 = 13 \text{ кг.}$$

Задача 35.24.

2

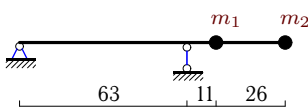


$$m_1 = 11 \text{ кг,}$$

$$m_2 = 8 \text{ кг.}$$

Задача 35.25.

2

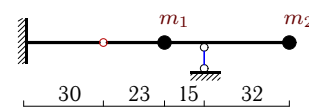


$$m_1 = 6 \text{ кг,}$$

$$m_2 = 9 \text{ кг.}$$

Задача 35.26.

2

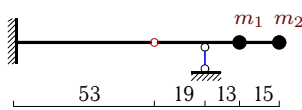


$$m_1 = 10 \text{ кг,}$$

$$m_2 = 9 \text{ кг.}$$

Задача 35.27.

2

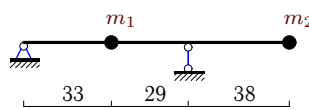


$$m_1 = 10 \text{ кг,}$$

$$m_2 = 4 \text{ кг.}$$

Задача 35.28.

2



$$m_1 = 10 \text{ кг,}$$

$$m_2 = 13 \text{ кг.}$$

Колебания грузов на упругой балке

	δ_{11}	δ_{12}	δ_{22}	ω_1	ω_2
	см ³			рад/с	
1	2.629	-5.502	28.484	366.178	91.431
2	13.101	51.249	333.333	133.678	17.096
3	9.000	34.941	175.157	216.786	24.588
4	8.130	14.187	40.144	239.334	45.985
5	16.449	5.499	17.982	133.599	72.626
6	5.859	6.356	11.428	237.705	83.325
7	14.700	13.218	16.295	203.342	56.472
8	5.859	15.773	66.896	316.589	59.038
9	13.101	51.249	333.333	180.070	18.114
10	12.949	12.150	16.295	215.819	63.501
11	8.130	47.322	354.919	218.549	23.242
12	10.923	45.739	333.333	165.400	18.105
13	26.119	65.729	168.644	596.858	20.645
14	4.873	8.752	48.133	252.383	70.500
15	3.774	-5.245	17.040	273.040	93.151
16	17.252	14.469	15.783	198.460	50.845
17	9.930	13.764	23.855	241.254	52.387
18	24.576	5.973	17.771	96.439	59.007
19	4.801	9.364	48.133	182.786	61.598
20	9.930	14.181	25.089	259.483	55.885
21	3.986	9.145	56.033	261.562	49.904
22	11.979	30.873	101.864	184.073	32.597
23	5.207	9.127	45.633	224.135	40.670
24	14.292	38.308	126.935	193.842	29.539
25	2.985	10.564	45.633	565.843	48.479
26	2.446	-5.945	30.276	285.831	59.266
27	25.035	54.343	120.057	589.254	37.070
28	4.924	9.287	48.133	181.353	39.388