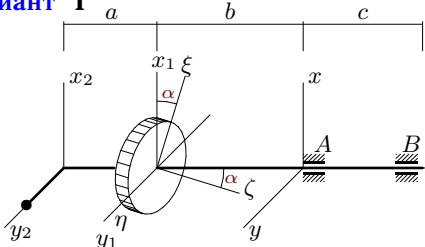


Динамические реакции вала

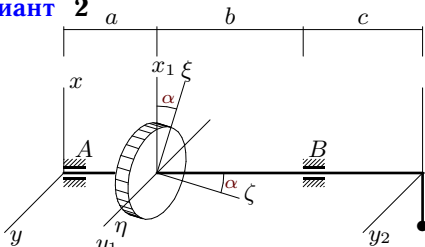
Кирсанов М.Н. **Решебник. Теоретическая механика** с. 272.

Вариант 1



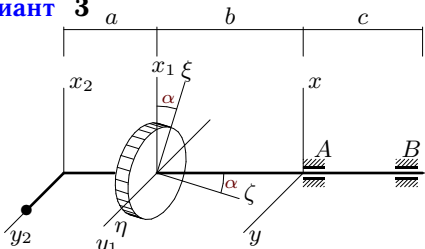
$a = 35 \text{ см}, b = 45 \text{ см},$
 $c = 40 \text{ см}, R = 45 \text{ см},$
 $m_1 = 45 \text{ кг}, m_2 = 10 \text{ кг},$
 $\alpha = 0.07 \text{ рад}, L = 25 \text{ см},$
 $M_z = 1.1 \text{ Нм}, t = 4 \text{ с}.$

Вариант 2



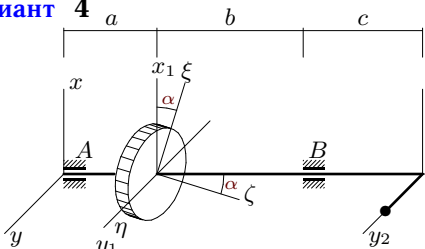
$a = 45 \text{ см}, b = 75 \text{ см},$
 $c = 60 \text{ см}, R = 55 \text{ см},$
 $m_1 = 90 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.17 \text{ рад}, L = 35 \text{ см},$
 $M_z = 3.7 \text{ Нм}, t = 5 \text{ с}.$

Вариант 3



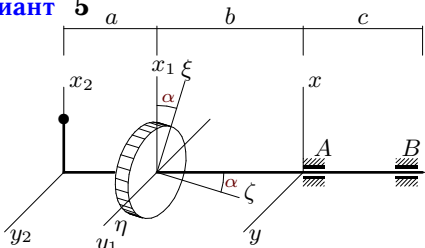
$a = 40 \text{ см}, b = 50 \text{ см},$
 $c = 45 \text{ см}, R = 50 \text{ см},$
 $m_1 = 50 \text{ кг}, m_2 = 10 \text{ кг},$
 $\alpha = 0.08 \text{ рад}, L = 30 \text{ см},$
 $M_z = 1.6 \text{ Нм}, t = 4 \text{ с}.$

Вариант 4

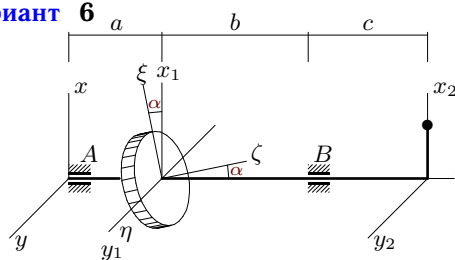


$a = 35 \text{ см}, b = 65 \text{ см},$
 $c = 50 \text{ см}, R = 45 \text{ см},$
 $m_1 = 80 \text{ кг}, m_2 = 10 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 25 \text{ см},$
 $M_z = 2.9 \text{ Нм}, t = 4 \text{ с}.$

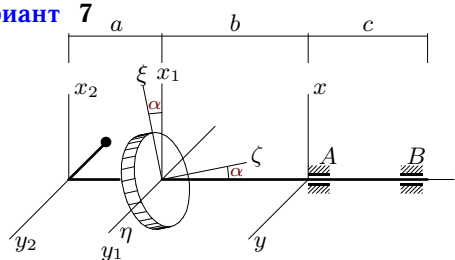
Вариант 5



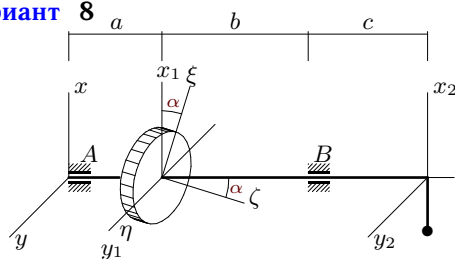
$a = 45 \text{ см}, b = 55 \text{ см},$
 $c = 50 \text{ см}, R = 55 \text{ см},$
 $m_1 = 60 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.09 \text{ рад}, L = 35 \text{ см},$
 $M_z = 4.6 \text{ Нм}, t = 3 \text{ с}.$

Вариант 6

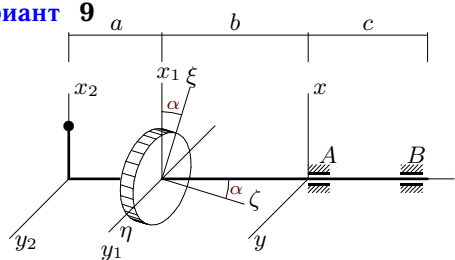
$a = 35 \text{ см}, b = 65 \text{ см},$
 $c = 50 \text{ см}, R = 40 \text{ см},$
 $m_1 = 25 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.06 \text{ рад}, L = 25 \text{ см},$
 $M_z = 0.9 \text{ Нм}, t = 3 \text{ с}.$

Вариант 7

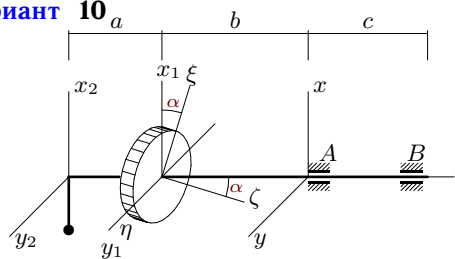
$a = 55 \text{ см}, b = 65 \text{ см},$
 $c = 60 \text{ см}, R = 60 \text{ см},$
 $m_1 = 70 \text{ кг}, m_2 = 18 \text{ кг},$
 $\alpha = 0.18 \text{ рад}, L = 45 \text{ см},$
 $M_z = 2.7 \text{ Нм}, t = 6 \text{ с}.$

Вариант 8

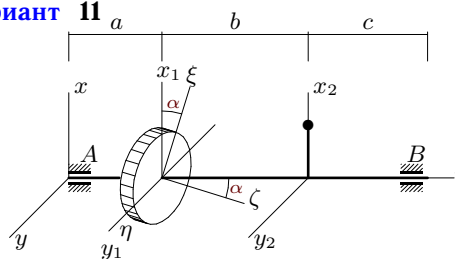
$a = 45 \text{ см}, b = 75 \text{ см},$
 $c = 60 \text{ см}, R = 55 \text{ см},$
 $m_1 = 50 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.09 \text{ рад}, L = 35 \text{ см},$
 $M_z = 1.3 \text{ Нм}, t = 5 \text{ с}.$

Вариант 9

$a = 35 \text{ см}, b = 45 \text{ см},$
 $c = 40 \text{ см}, R = 45 \text{ см},$
 $m_1 = 45 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.06 \text{ рад}, L = 25 \text{ см},$
 $M_z = 1.8 \text{ Нм}, t = 3 \text{ с}.$

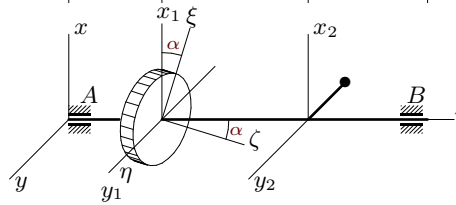
Вариант 10

$a = 30 \text{ см}, b = 40 \text{ см},$
 $c = 35 \text{ см}, R = 40 \text{ см},$
 $m_1 = 50 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.09 \text{ рад}, L = 20 \text{ см},$
 $M_z = 0.7 \text{ Нм}, t = 5 \text{ с}.$

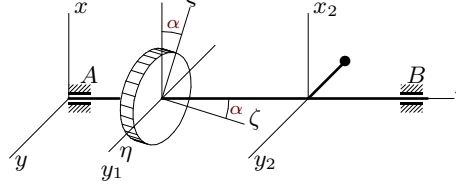
Вариант 11

$a = 35 \text{ см}, b = 55 \text{ см},$
 $c = 45 \text{ см}, R = 45 \text{ см},$
 $m_1 = 55 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.08 \text{ рад}, L = 25 \text{ см},$
 $M_z = 2.6 \text{ Нм}, t = 3 \text{ с}.$

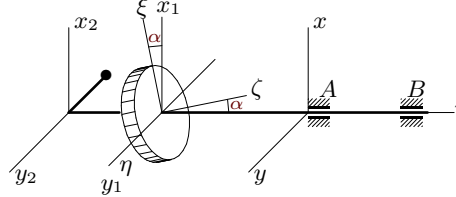
$$\mathbf{12} \quad \begin{array}{|c|c|c|} \hline a & b & c \\ \hline \end{array}$$


$$\begin{aligned} a &= 25 \text{ см}, b = 45 \text{ см}, \\ c &= 35 \text{ см}, R = 35 \text{ см}, \\ m_1 &= 60 \text{ кг}, m_2 = 18 \text{ кг}, \\ \alpha &= 0.12 \text{ рад}, L = 15 \text{ см}, \\ M_z &= 0.5 \text{ Нм}, t = 6 \text{ с}. \end{aligned}$$

A horizontal line representing a number line. Above the line, three points are marked with labels a , b , and c from left to right. Below the line, two points are marked with labels x_1 and ξ from left to right. Vertical tick marks connect the points on the line. The segment between a and b is labeled x_1 below the line, and the segment between b and c is labeled ξ below the line.

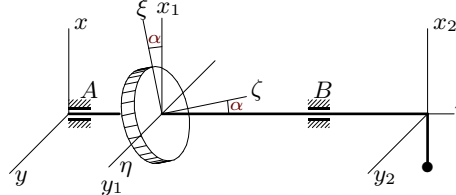

$$\begin{aligned} a &= 25 \text{ см}, b = 45 \text{ см}, \\ c &= 35 \text{ см}, R = 35 \text{ см}, \\ m_1 &= 85 \text{ кг}, m_2 = 18 \text{ кг}, \\ \alpha &= 0.17 \text{ рад}, L = 15 \text{ см}, \\ M_z &= 0.9 \text{ Нм}, t = 6 \text{ с}. \end{aligned}$$

14 a b c



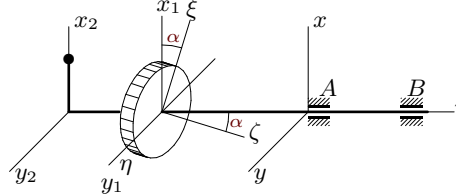
$a = 50 \text{ см}, b = 60 \text{ см},$
 $c = 55 \text{ см}, R = 55 \text{ см},$
 $m_1 = 65 \text{ кг}, m_2 = 18 \text{ кг},$
 $\alpha = 0.17 \text{ рад}, L = 40 \text{ см},$
 $M_z = 2 \text{ Нм}, t = 6 \text{ с}.$

15 a b c



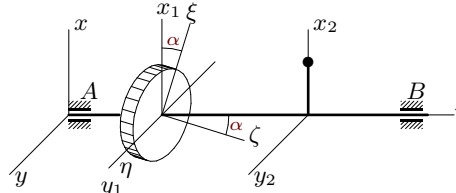
$a = 40$ см, $b = 70$ см,
 $c = 55$ см, $R = 45$ см,
 $m_1 = 25$ кг, $m_2 = 14$ кг,
 $\alpha = 0.08$ рад, $L = 30$ см,
 $M_z = 0.5$ Нм, $t = 5$ с.

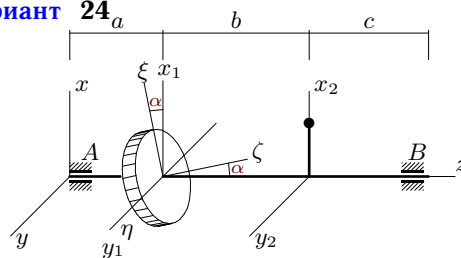
16 a b c



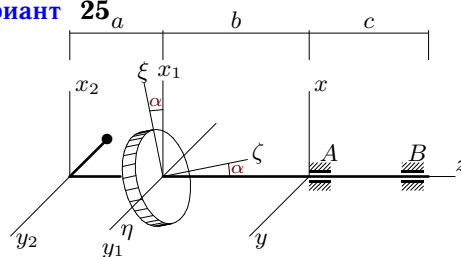
$a = 40$ см, $b = 50$ см,
 $c = 45$ см, $R = 50$ см,
 $m_1 = 65$ кг, $m_2 = 6$ кг,
 $\alpha = 0.1$ рад, $L = 30$ см,
 $M_z = 4.3$ Нм, $t = 3$ с.

17

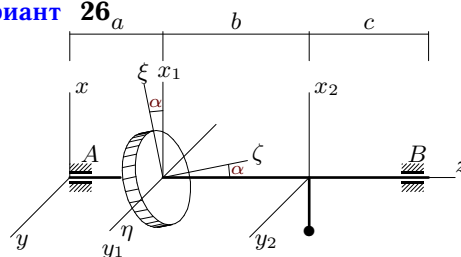

$$\begin{aligned} a &= 45 \text{ см}, b = 65 \text{ см}, \\ c &= 55 \text{ см}, R = 55 \text{ см}, \\ m_1 &= 75 \text{ кг}, m_2 = 6 \text{ кг}, \\ \alpha &= 0.12 \text{ рад}, L = 35 \text{ см}, \\ M_z &= 6.8 \text{ Нм}, t = 3 \text{ с}. \end{aligned}$$

Вариант 24

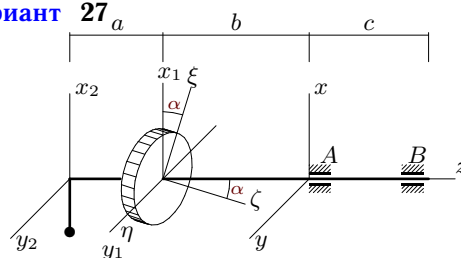
$a = 45 \text{ см}, b = 65 \text{ см},$
 $c = 55 \text{ см}, R = 50 \text{ см},$
 $m_1 = 65 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 35 \text{ см},$
 $M_z = 5.6 \text{ Нм}, t = 3 \text{ с}.$

Вариант 25

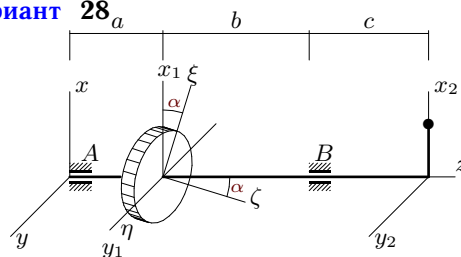
$a = 55 \text{ см}, b = 65 \text{ см},$
 $c = 60 \text{ см}, R = 60 \text{ см},$
 $m_1 = 25 \text{ кг}, m_2 = 18 \text{ кг},$
 $\alpha = 0.09 \text{ рад}, L = 45 \text{ см},$
 $M_z = 0.7 \text{ Нм}, t = 6 \text{ с}.$

Вариант 26

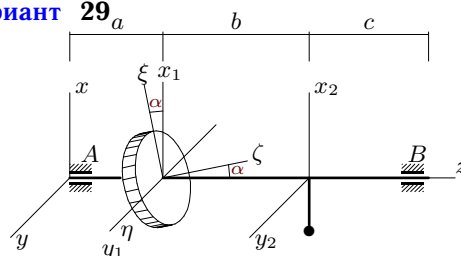
$a = 25 \text{ см}, b = 45 \text{ см},$
 $c = 35 \text{ см}, R = 30 \text{ см},$
 $m_1 = 60 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.15 \text{ рад}, L = 15 \text{ см},$
 $M_z = 0.7 \text{ Нм}, t = 5 \text{ с}.$

Вариант 27

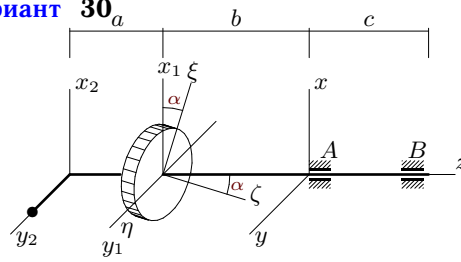
$a = 35 \text{ см}, b = 45 \text{ см},$
 $c = 40 \text{ см}, R = 45 \text{ см},$
 $m_1 = 75 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 25 \text{ см},$
 $M_z = 1.7 \text{ Нм}, t = 5 \text{ с}.$

Вариант 28

$a = 35 \text{ см}, b = 65 \text{ см},$
 $c = 50 \text{ см}, R = 45 \text{ см},$
 $m_1 = 85 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 25 \text{ см},$
 $M_z = 5.7 \text{ Нм}, t = 3 \text{ с}.$

Вариант 29

$a = 35 \text{ см}, b = 55 \text{ см},$
 $c = 45 \text{ см}, R = 40 \text{ см},$
 $m_1 = 25 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.08 \text{ рад}, L = 25 \text{ см},$
 $M_z = 0.4 \text{ Нм}, t = 5 \text{ с}.$

Вариант 30

$a = 45$ см, $b = 55$ см,
 $c = 50$ см, $R = 55$ см,
 $m_1 = 50$ кг, $m_2 = 10$ кг,
 $\alpha = 0.08$ рад, $L = 35$ см,
 $M_z = 2$ Нм, $t = 4$ с.

Отвѣты

	ε	ω	x_c	y_c	z_c	X_A	Y_A	X_B	Y_B
1	0.212	0.849	0.000	4.545	-51.364	-1.305	-5.493	0.774	3.690
2	0.241	1.207	-4.712	0.000	63.173	-2.164	0.359	9.303	-1.542
3	0.224	0.895	0.000	5.000	-56.667	-1.569	-7.335	0.898	4.932
4	0.332	1.330	0.000	2.778	47.778	1.418	2.021	-2.249	-6.440
5	0.469	1.407	3.182	0.000	-59.091	-10.851	2.571	6.695	-1.586
6	0.379	1.137	4.839	0.000	57.258	0.892	-0.261	-2.830	0.830
7	0.166	0.997	0.000	-9.205	-76.250	2.159	24.480	-0.813	-16.425
8	0.140	0.701	-7.656	0.000	74.531	-1.063	0.304	3.469	-0.990
9	0.365	1.095	2.941	0.000	-49.118	-4.986	1.518	3.188	-0.970
10	0.154	0.768	-4.375	0.000	-46.563	5.252	-1.368	-3.602	0.939
11	0.437	1.312	2.459	0.000	40.410	-0.577	0.147	-2.006	0.510
12	0.123	0.735	0.000	-3.462	35.385	0.224	0.461	0.107	0.999
13	0.160	0.962	0.000	-2.621	32.864	0.535	0.766	-0.102	1.735
14	0.157	0.944	0.000	-8.675	-70.843	2.044	19.489	-0.912	-13.073
15	0.132	0.659	-10.769	0.000	84.872	-0.953	0.289	2.779	-0.843
16	0.496	1.489	2.535	0.000	-53.380	-9.968	2.232	5.978	-1.338
17	0.563	1.689	2.593	0.000	49.815	-0.820	0.162	-5.170	1.020
18	0.664	1.993	2.763	0.000	-58.553	-30.226	5.056	21.888	-3.661
19	0.143	0.857	0.000	-9.863	67.260	0.088	1.813	0.941	3.478
20	0.483	1.450	2.609	0.000	-43.913	-8.229	1.892	5.707	-1.312
21	0.123	0.739	0.000	-6.506	67.108	-0.070	-1.533	0.735	4.481
22	0.190	0.762	0.000	7.143	67.857	0.197	0.739	-0.674	-2.190
23	0.280	1.122	0.000	4.667	63.000	1.057	2.075	-2.039	-6.477
24	0.632	1.896	2.958	0.000	50.493	-3.756	0.660	-3.794	0.667
25	0.086	0.516	0.000	-18.837	-88.023	1.999	6.490	-1.303	-4.337
26	0.232	1.161	-2.838	0.000	33.514	0.683	-0.118	2.147	-0.370
27	0.201	1.004	-3.933	0.000	-50.506	11.916	-2.375	-8.390	1.672
28	0.635	1.904	1.648	0.000	42.582	4.903	-0.858	-10.340	1.810
29	0.139	0.696	-8.974	0.000	54.744	0.536	-0.154	1.158	-0.333
30	0.228	0.910	0.000	5.833	-62.500	-1.888	-8.840	1.092	5.939