

Динамические реакции вала

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

Вариант 1

$a = 40 \text{ см}, b = 70 \text{ см},$
 $c = 55 \text{ см}, R = 45 \text{ см},$
 $m_1 = 35 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.1 \text{ рад}, L = 30 \text{ см},$
 $M_z = 0.7 \text{ Нм}, t = 5 \text{ с}.$

Вариант 2

$a = 30 \text{ см}, b = 50 \text{ см},$
 $c = 40 \text{ см}, R = 40 \text{ см},$
 $m_1 = 85 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 20 \text{ см},$
 $M_z = 4.5 \text{ Нм}, t = 3 \text{ с}.$

Вариант 3

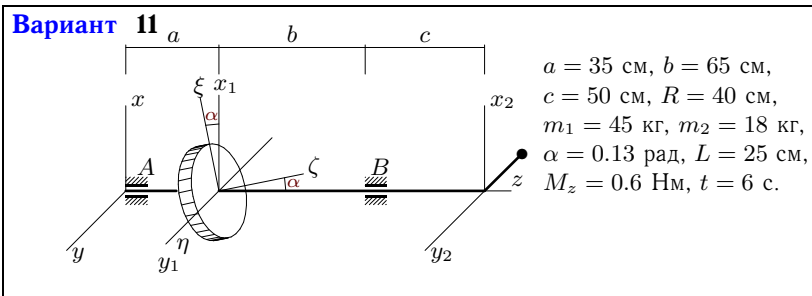
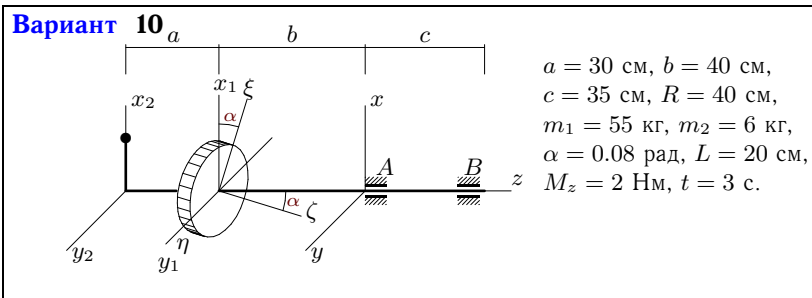
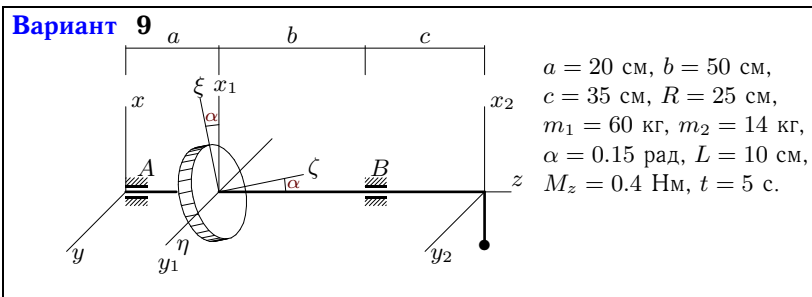
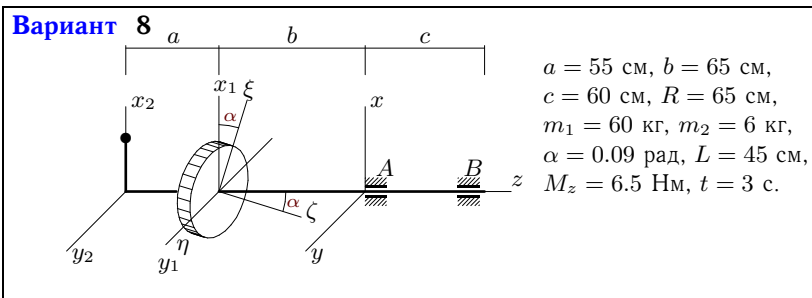
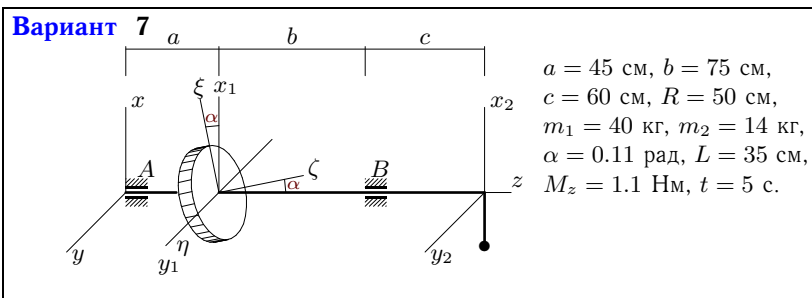
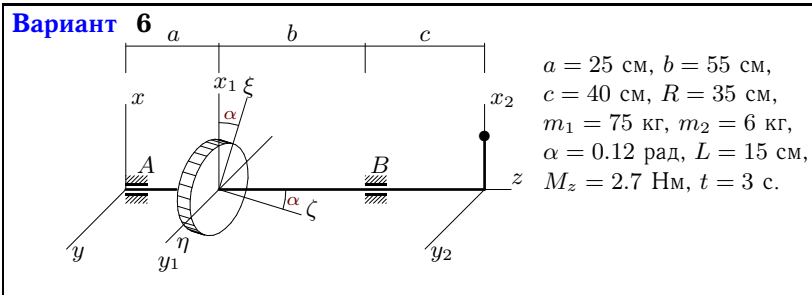
$a = 35 \text{ см}, b = 55 \text{ см},$
 $c = 45 \text{ см}, R = 45 \text{ см},$
 $m_1 = 45 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.06 \text{ рад}, L = 25 \text{ см},$
 $M_z = 1.8 \text{ Нм}, t = 3 \text{ с}.$

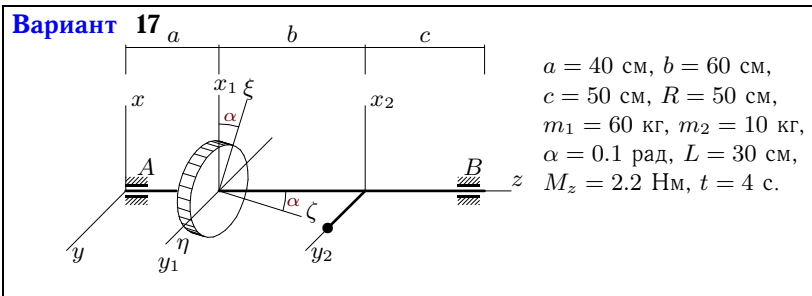
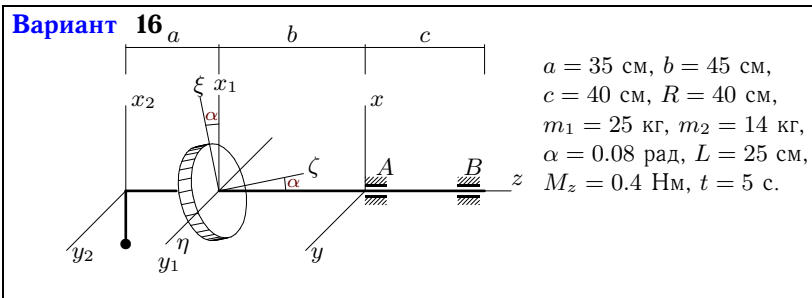
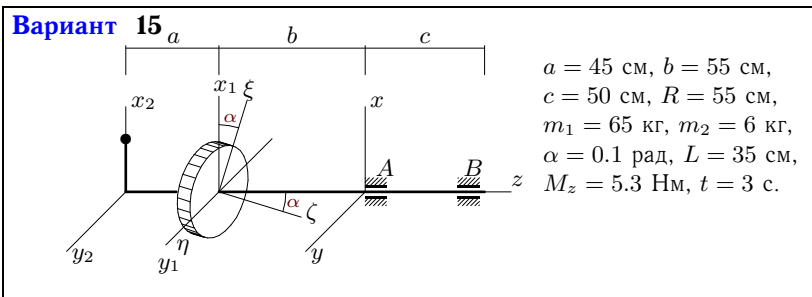
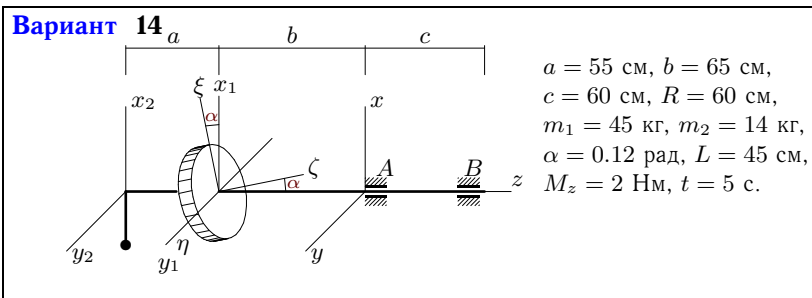
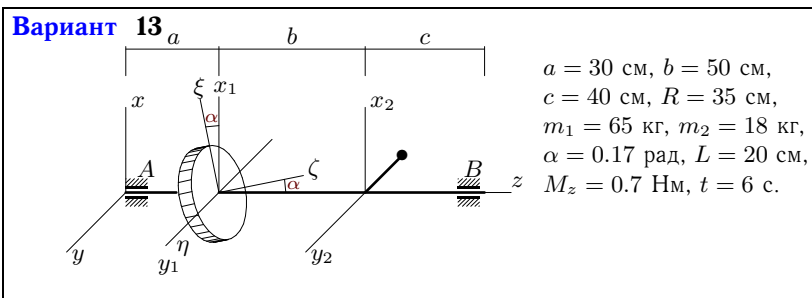
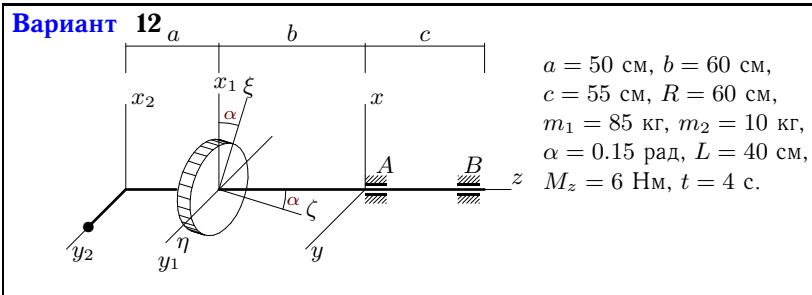
Вариант 4

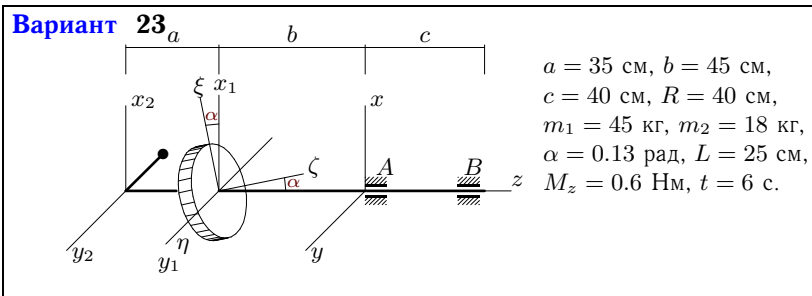
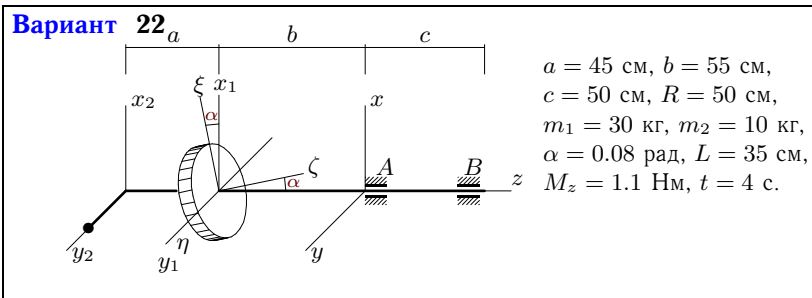
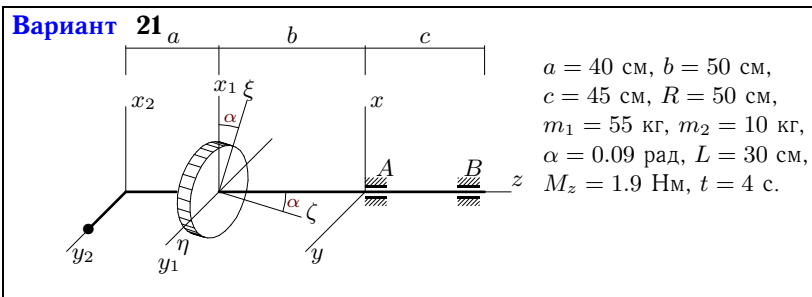
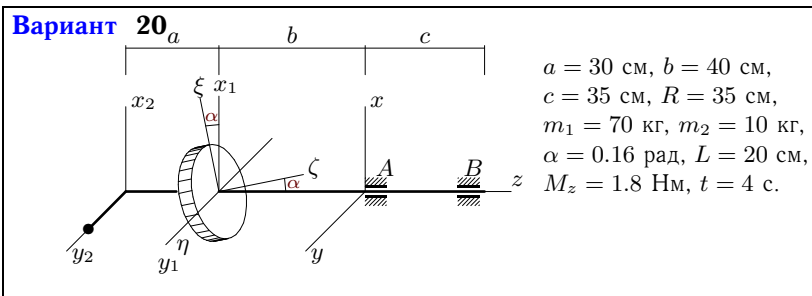
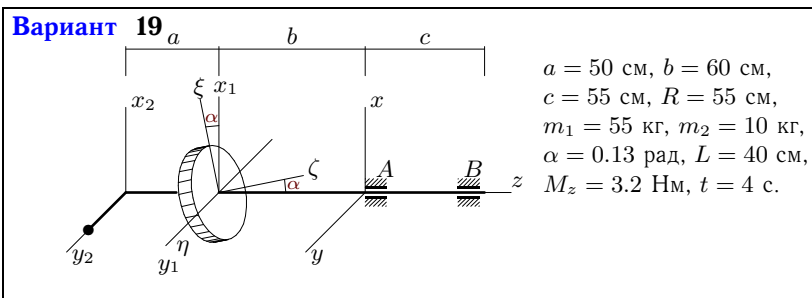
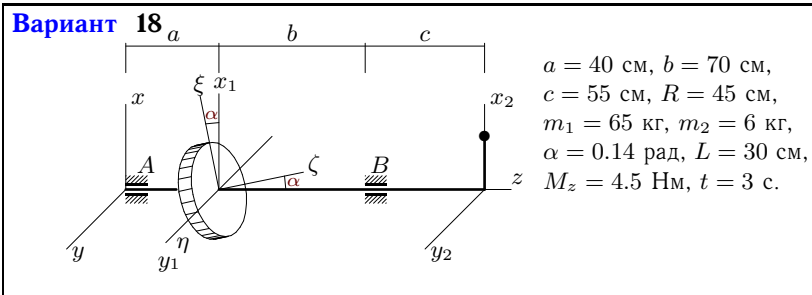
$a = 20 \text{ см}, b = 50 \text{ см},$
 $c = 35 \text{ см}, R = 25 \text{ см},$
 $m_1 = 55 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.14 \text{ рад}, L = 10 \text{ см},$
 $M_z = 0.4 \text{ Нм}, t = 5 \text{ с}.$

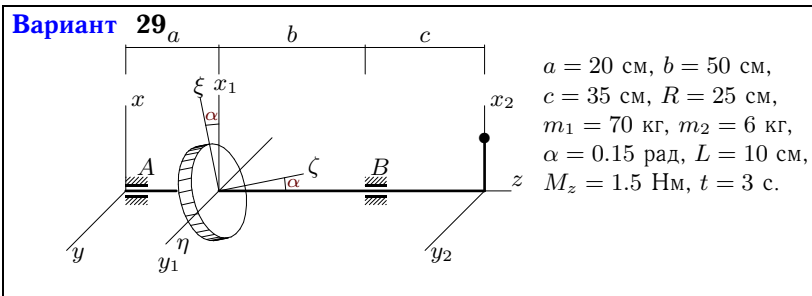
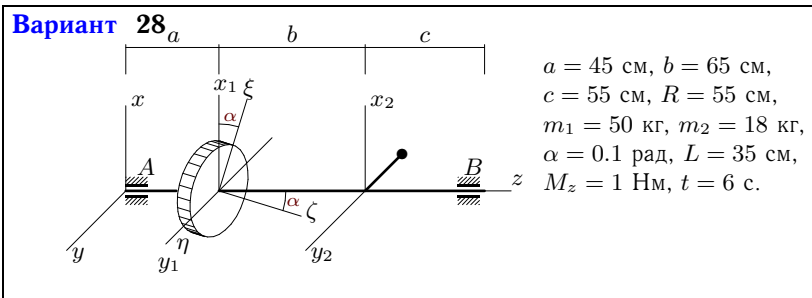
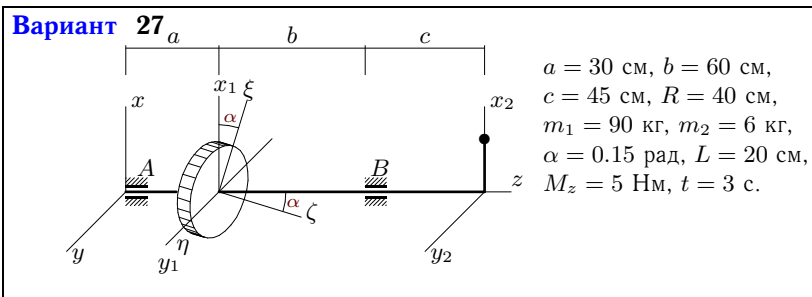
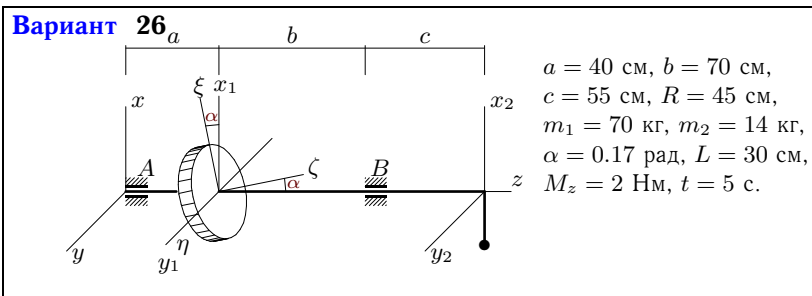
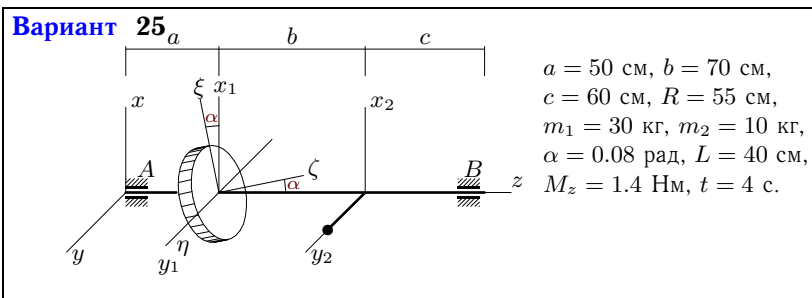
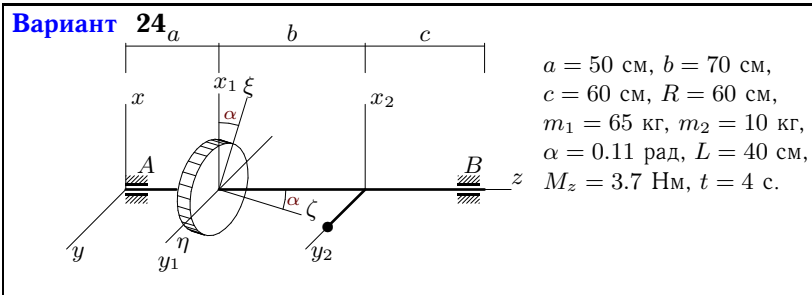
Вариант 5

$a = 40 \text{ см}, b = 60 \text{ см},$
 $c = 50 \text{ см}, R = 50 \text{ см},$
 $m_1 = 50 \text{ кг}, m_2 = 6 \text{ кг},$
 $\alpha = 0.07 \text{ рад}, L = 30 \text{ см},$
 $M_z = 2.7 \text{ Нм}, t = 3 \text{ с}.$

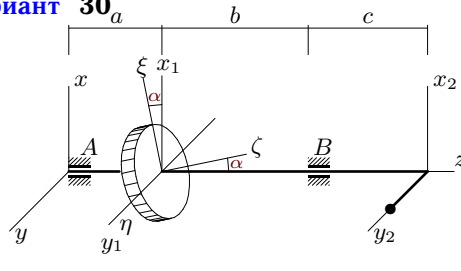








Вариант 30



$a = 45$ см, $b = 75$ см,
 $c = 60$ см, $R = 50$ см,
 $m_1 = 35$ кг, $m_2 = 10$ кг,
 $\alpha = 0.09$ рад, $L = 35$ см,
 $M_z = 1.4$ Нм, $t = 4$ с.

Ответы

	ε	ω	x_c	y_c	z_c	X_A	Y_A	X_B	Y_B
1	0.146	0.729	-8.571	0.000	75.714	-1.200	0.329	3.430	-0.942
2	0.639	1.918	1.319	0.000	33.297	-0.012	0.002	-4.400	0.765
3	0.365	1.095	2.941	0.000	41.471	-0.478	0.146	-1.321	0.402
4	0.215	1.076	-2.029	0.000	37.246	-1.009	0.188	2.630	-0.489
5	0.398	1.193	3.214	0.000	46.429	-0.646	0.181	-1.915	0.535
6	0.571	1.713	1.111	0.000	32.037	2.331	-0.454	-4.972	0.968
7	0.164	0.819	-9.074	0.000	80.000	-1.797	0.439	5.085	-1.242
8	0.468	1.404	4.091	0.000	-70.000	-14.091	3.346	8.769	-2.082
9	0.199	0.993	-1.892	0.000	36.081	-0.888	0.179	2.267	-0.457
10	0.431	1.293	1.967	0.000	-42.951	-5.179	1.335	3.172	-0.818
11	0.127	0.762	0.000	-7.143	67.857	-0.422	-1.276	0.993	3.889
12	0.355	1.420	0.000	4.211	-65.263	-0.053	-24.942	-1.367	16.875
13	0.149	0.893	0.000	-4.337	40.843	-0.046	1.000	0.582	1.874
14	0.183	0.914	-10.678	0.000	-78.051	15.129	-3.309	-9.860	2.156
15	0.502	1.505	2.958	0.000	-58.803	-12.040	2.667	7.284	-1.614
16	0.139	0.696	-8.974	0.000	-57.564	4.984	-1.433	-3.291	0.946
17	0.262	1.048	0.000	4.286	48.571	0.012	-1.163	-0.798	-2.130
18	0.632	1.896	2.535	0.000	50.563	1.729	-0.304	-8.198	1.442
19	0.323	1.290	0.000	6.154	-67.692	-5.509	-19.667	4.218	13.006
20	0.384	1.536	0.000	2.500	-43.750	-4.616	-13.779	3.848	9.061
21	0.244	0.977	0.000	4.615	-56.154	-1.542	-8.767	0.809	5.901
22	0.221	0.884	0.000	8.750	-66.250	-2.556	-8.147	1.782	5.409
23	0.127	0.762	0.000	-7.143	-55.000	1.375	7.911	-0.803	-5.299
24	0.278	1.113	0.000	5.333	59.333	0.072	-1.750	-1.185	-3.203
25	0.228	0.912	0.000	10.000	67.500	-0.388	-1.087	-0.524	-2.243
26	0.240	1.198	-5.000	0.000	60.833	-3.800	0.634	9.827	-1.641
27	0.672	2.016	1.250	0.000	36.563	4.878	-0.806	-9.755	1.613
28	0.102	0.614	0.000	-9.265	62.206	0.301	0.769	0.344	1.608
29	0.667	2.002	0.789	0.000	26.711	0.263	-0.044	-2.668	0.444
30	0.250	1.000	0.000	7.778	75.000	0.273	1.791	-1.148	-5.291