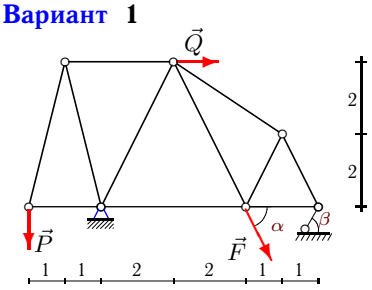
Расчет фермы

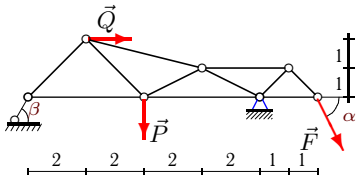
Кирсанов М.Н. **Решебник. Теоретическая механика** с. 45.

Вариант 1



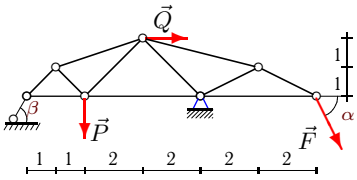
С6.
$P = 30$кН,
$F = 1$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 20$кН.

Вариант 2



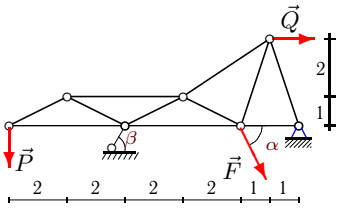
С6.
$P = 25$кН,
$F = 2$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 30$кН.

Вариант 3



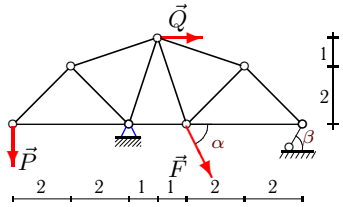
С6.
$P = 35$кН,
$F = 3$кН,
$\alpha = 65°$,
$\beta = 45°$,
$Q = 60$кН.

Вариант 4



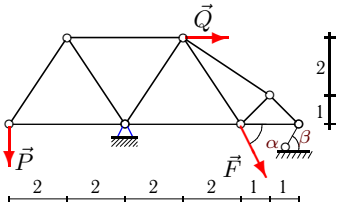
С6.
$P = 40$кН,
$F = 4$кН,
$\alpha = 70°$,
$\beta = 60°$,
$Q = 30$кН.

Вариант 5



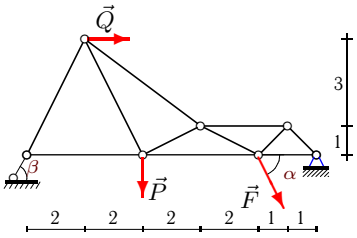
С6.
$P = 30$кН,
$F = 5$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 50$кН.

Вариант 6



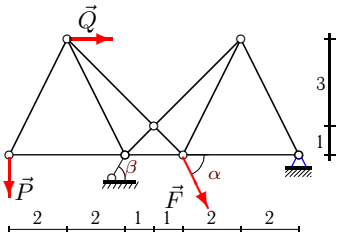
С6.
$P = 10$кН,
$F = 6$кН,
$\alpha = 40°$,
$\beta = 30°$,
$Q = 30$кН.

Вариант 7



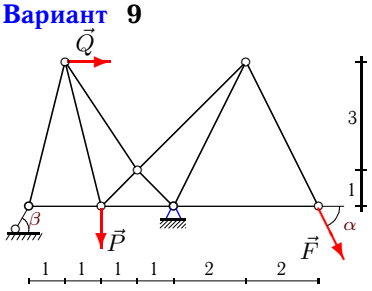
С6.
$P = 10$кН,
$F = 7$кН,
$\alpha = 40°$,
$\beta = 30°$,
$Q = 30$кН.

Вариант 8



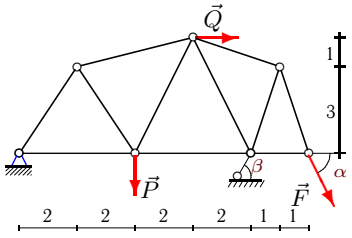
С6.
$P = 45$кН,
$F = 8$кН,
$\alpha = 75°$,
$\beta = 60°$,
$Q = 50$кН.

Вариант 9



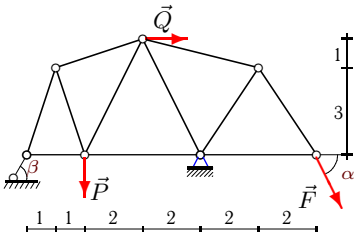
С6.
$P = 30$кН,
$F = 9$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 40$кН.

Вариант 10



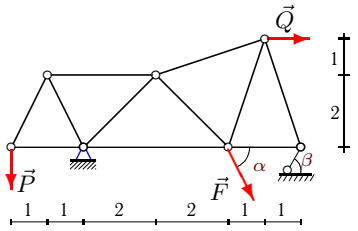
С6.
$P = 30$кН,
$F = 10$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 30$кН.

Вариант 11



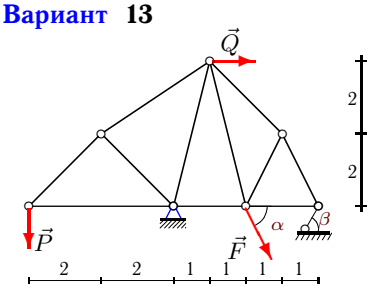
C6.
$P = 30$кН,
$F = 11$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 60$кН.

Вариант 12



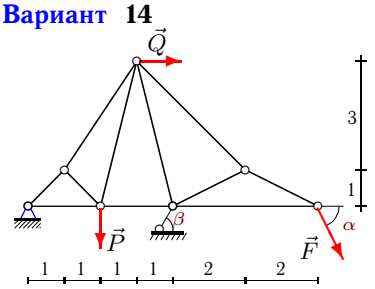
C6.
$P = 25$кН,
$F = 12$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 20$кН.

Вариант 13



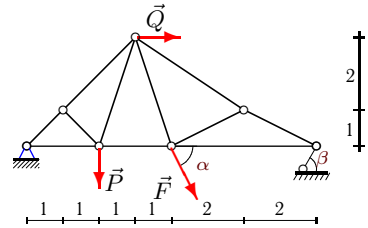
C6.
$P = 30$кН,
$F = 13$кН,
$\alpha = 60°$,
$\beta = 45°$,
$Q = 10$кН.

Вариант 14



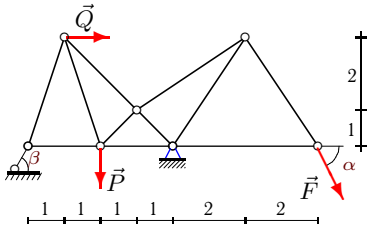
C6.
$P = 25$кН,
$F = 14$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 40$кН.

Вариант 15



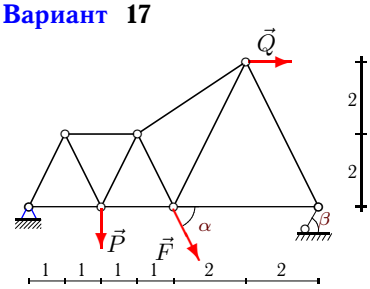
C6.
$P = 15$кН,
$F = 15$кН,
$\alpha = 45°$,
$\beta = 30°$,
$Q = 40$кН.

Вариант 16



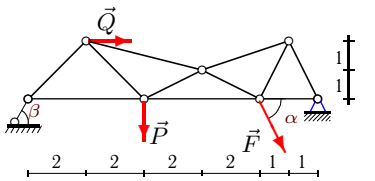
C6.
$P = 5$кН,
$F = 16$кН,
$\alpha = 35°$,
$\beta = 30°$,
$Q = 40$кН.

Вариант 17



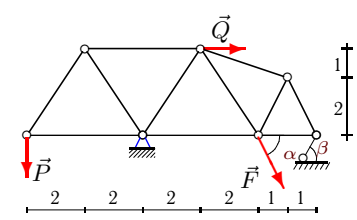
C6.
$P = 25$кН,
$F = 17$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 40$кН.

Вариант 18



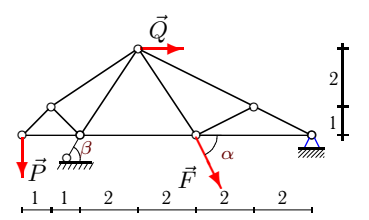
C6.
$P = 25$кН,
$F = 18$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 30$кН.

Вариант 19



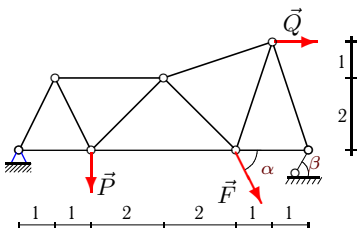
C6.
$P = 40$кН,
$F = 19$кН,
$\alpha = 70°$,
$\beta = 60°$,
$Q = 30$кН.

Вариант 20



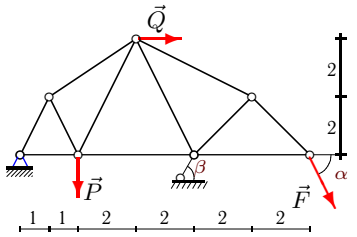
C6.
$P = 40$кН,
$F = 20$кН,
$\alpha = 70°$,
$\beta = 60°$,
$Q = 60$кН.

Вариант 21



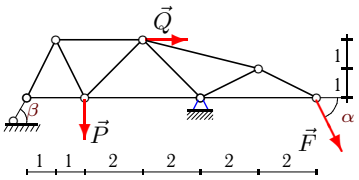
С6.
$P = 35$кН,
$F = 21$кН,
$\alpha = 65°$,
$\beta = 45°$,
$Q = 20$кН.

Вариант 22



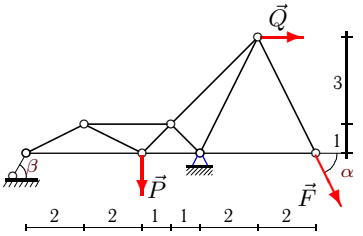
С6.
$P = 20$кН,
$F = 22$кН,
$\alpha = 50°$,
$\beta = 45°$,
$Q = 60$кН.

Вариант 23



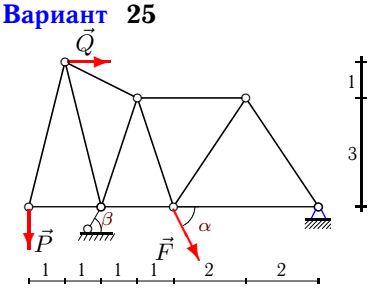
С6.
$P = 15$кН,
$F = 23$кН,
$\alpha = 45°$,
$\beta = 30°$,
$Q = 60$кН.

Вариант 24



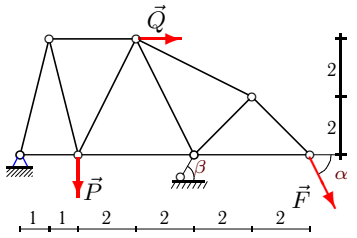
С6.
$P = 15$кН,
$F = 24$кН,
$\alpha = 45°$,
$\beta = 30°$,
$Q = 50$кН.

Вариант 25



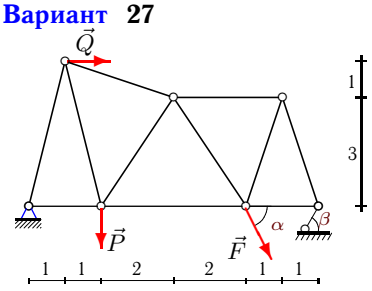
С6.
$P = 25$кН,
$F = 25$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 40$кН.

Вариант 26



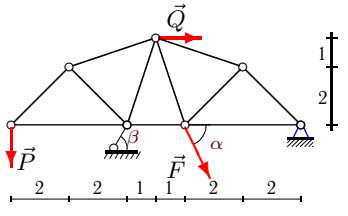
С6.
$P = 25$кН,
$F = 26$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 60$кН.

Вариант 27



С6.
$P = 25$кН,
$F = 27$кН,
$\alpha = 55°$,
$\beta = 45°$,
$Q = 20$кН.

Вариант 28



С6.
$P = 5$кН,
$F = 28$кН,
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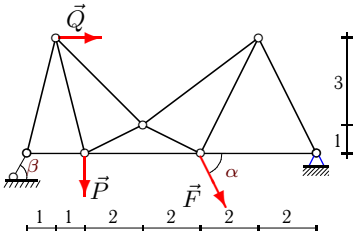
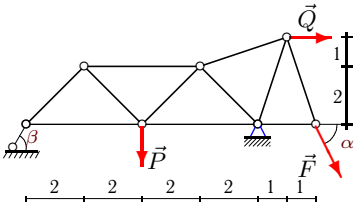
$\beta = 30°$,
$Q = 50$кН.

Вариант 29



С6.
$P = 15$кН,
$F = 29$кН,
$\alpha = 45°$,
$\beta = 30°$,
$Q = 60$кН.

Вариант 30



С6.
$P = 15$кН,
$F = 30$кН,
$\alpha = 45°$,
$\beta = 30°$,
$Q = 30$кН.

Ответы

	X_A	Y_A	R_B	U_1	U_2	U_3	O_1	O_2	O_3	O_4	D_1	D_2	D_3	D_4
1	-24.411	26.955	5.531	-7.500	7.888	5.866	30.923	15.000	-3.525	-4.372	-30.923	3.404	-1.218	2.186
2	-35.738	22.048	6.492	0.000	2.952	-0.491	-6.492	-53.849	3.277	2.317	24.962	16.434	-45.637	-2.317
3	-62.789	36.198	2.151	0.000	-33.479	-4.170	-2.151	-2.404	7.474	6.080	1.075	48.422	-49.910	-2.027
4	-61.921	-9.161	61.106	-80.000	-164.714	-64.975	89.443	160.000	55.794	9.656	-89.443	-28.889	98.093	-42.280
5	-58.943	27.887	9.112	-30.000	18.239	12.887	42.426	47.434	-10.188	-9.112	-21.213	-13.584	1.168	4.556
6	-53.483	2.952	21.809	-6.667	35.452	29.792	12.019	13.333	-15.727	-15.421	-12.019	8.470	2.014	3.084
7	-26.529	19.600	-10.200	6.284	48.233	-6.929	5.702	-49.800	-39.199	-27.718	27.705	-33.049	-33.765	27.718
8	-79.101	5.909	54.061	-22.500	-55.212	-76.147	50.312	-14.142	-16.714	-6.607	-39.131	-16.714	-14.142	19.820
9	-11.706	70.588	-46.378	24.596	24.412	0.603	33.804	-68.081	22.045	8.714	24.587	8.694	-66.759	-26.143
10	-75.825	-2.165	57.736	74.382	57.578	2.113	2.602	2.551	5.477	9.129	-1.859	35.270	-37.898	-7.303
11	-39.149	65.877	-37.266	17.567	-15.000	-0.851	27.776	16.666	11.222	11.449	-22.221	57.110	-66.045	-8.178
12	-35.103	26.610	11.625	-12.500	11.713	10.960	27.951	25.000	17.219	-8.665	-27.951	-2.277	9.977	2.925
13	-2.129	55.629	-20.323	-30.000	-21.464	-21.556	42.426	43.267	13.549	16.067	-8.485	-51.157	16.543	-5.356
14	-123.466	-38.968	106.683	84.498	87.990	-14.906	55.109	56.201	21.625	25.644	11.022	17.736	-81.698	8.548
15	-92.268	1.553	48.107	93.821	88.821	89.768	-2.197	-2.197	-49.557	-53.785	0.000	15.811	14.802	-7.684
16	10.420	50.854	-73.354	51.301	28.495	6.988	38.661	-32.983	26.471	11.030	-14.077	25.957	-38.175	-28.677
17	-82.964	5.713	46.970	85.820	79.033	49.819	-6.387	-5.713	12.236	-37.133	6.387	21.564	-13.975	29.545
18	-52.273	27.796	16.898	0.000	39.745	-38.375	-16.898	-74.076	-35.159	-31.077	42.306	-10.990	-54.044	43.507
19	-36.635	57.618	0.273	-26.667	-4.953	0.254	48.074	53.333	-0.213	-0.264	-48.074	-21.174	21.255	0.189
20	-88.143	21.897	42.605	-40.000	-50.038	-44.349	56.569	57.689	-48.963	-48.963	-11.314	-34.730	22.587	0.000
21	-59.399	23.508	43.168	71.153	71.416	40.699	-26.283	-23.508	-0.415	-32.175	26.283	16.252	-16.437	32.314
22	-148.896	-37.902	105.719	129.945	100.994	-2.712	42.376	34.164	25.123	23.834	-21.188	43.549	-77.298	-7.945
23	-40.164	52.106	-41.685	25.679	-20.585	-16.263	23.302	20.842	44.704	36.366	-23.302	50.689	-66.022	-12.122
24	1.700	71.618	-79.294	-10.623	-144.565	8.485	88.653	158.588	189.421	18.974	-88.653	77.283	112.139	-168.724
25	-74.659	25.160	28.736	-6.250	-25.213	-57.886	25.769	-35.138	-33.546	-30.238	-9.571	-11.630	-4.934	30.238
26	-158.743	-37.532	118.553	149.360	108.711	-6.385	38.687	18.766	31.749	30.120	-38.687	69.913	-85.787	-10.040
27	-68.324	14.279	46.440	71.894	77.363	43.784	-14.719	-31.208	-21.892	-34.614	24.891	1.024	-12.885	34.614
28	-62.613	27.020	-11.920	-5.000	0.003	-35.593	7.071	7.906	-42.722	-38.212	-3.536	8.918	2.688	19.106
29	-73.929	39.304	-7.595	5.628	141.387	-54.277	3.914	-109.557	-78.607	-43.943	75.938	-131.192	-147.495	96.674
30	-35.532	45.267	-18.107	6.627	-26.479	14.142	12.803	18.107	52.346	22.361	-12.803	34.017	-10.607	-39.809