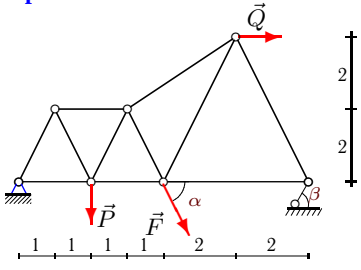
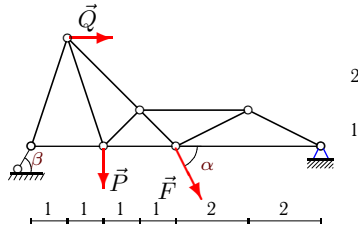
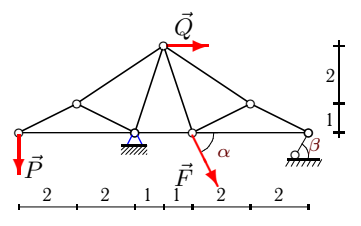
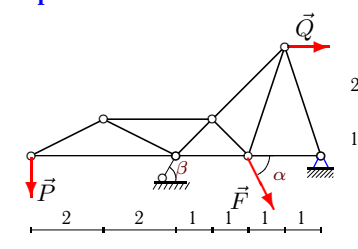
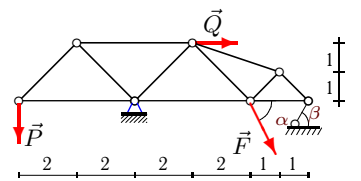
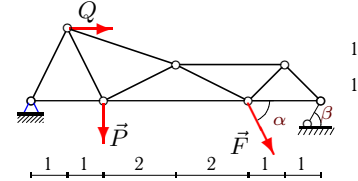
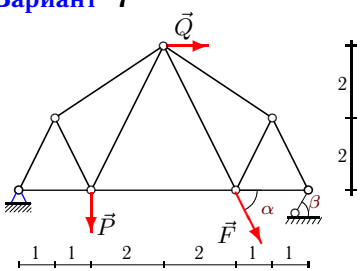
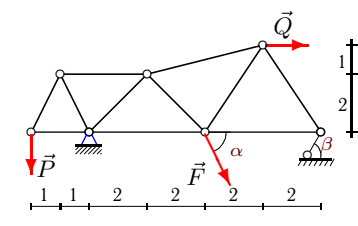
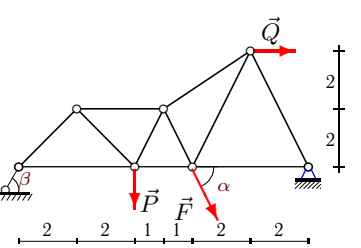
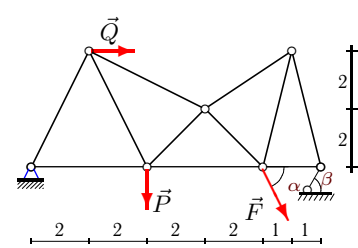
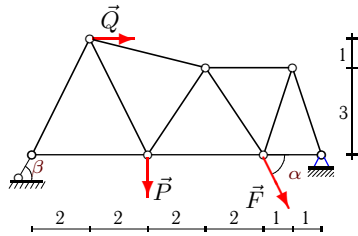


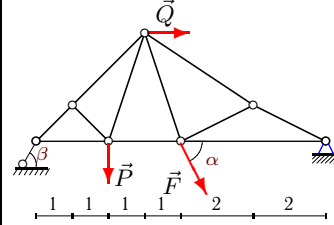
## Расчет фермы

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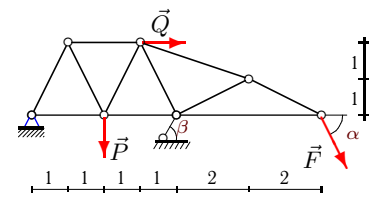
<p><b>Вариант 1</b></p>  <p><b>C6.</b>  <math>P = 25\text{кН}</math>,  <math>F = 1\text{кН}</math>,  <math>\alpha = 55^\circ</math>,  <math>\beta = 45^\circ</math>,  <math>Q = 40\text{кН}</math>.</p>	<p><b>Вариант 2</b></p>  <p><b>C6.</b>  <math>P = 20\text{кН}</math>,  <math>F = 2\text{кН}</math>,  <math>\alpha = 50^\circ</math>,  <math>\beta = 45^\circ</math>,  <math>Q = 40\text{кН}</math>.</p>
<p><b>Вариант 3</b></p>  <p><b>C6.</b>  <math>P = 15\text{кН}</math>,  <math>F = 3\text{кН}</math>,  <math>\alpha = 45^\circ</math>,  <math>\beta = 30^\circ</math>,  <math>Q = 50\text{кН}</math>.</p>	<p><b>Вариант 4</b></p>  <p><b>C6.</b>  <math>P = 45\text{кН}</math>,  <math>F = 4\text{кН}</math>,  <math>\alpha = 75^\circ</math>,  <math>\beta = 60^\circ</math>,  <math>Q = 10\text{кН}</math>.</p>
<p><b>Вариант 5</b></p>  <p><b>C6.</b>  <math>P = 25\text{кН}</math>,  <math>F = 5\text{кН}</math>,  <math>\alpha = 55^\circ</math>,  <math>\beta = 45^\circ</math>,  <math>Q = 30\text{кН}</math>.</p>	<p><b>Вариант 6</b></p>  <p><b>C6.</b>  <math>P = 10\text{кН}</math>,  <math>F = 6\text{кН}</math>,  <math>\alpha = 40^\circ</math>,  <math>\beta = 30^\circ</math>,  <math>Q = 20\text{кН}</math>.</p>
<p><b>Вариант 7</b></p>  <p><b>C6.</b>  <math>P = 40\text{кН}</math>,  <math>F = 7\text{кН}</math>,  <math>\alpha = 70^\circ</math>,  <math>\beta = 60^\circ</math>,  <math>Q = 20\text{кН}</math>.</p>	<p><b>Вариант 8</b></p>  <p><b>C6.</b>  <math>P = 45\text{кН}</math>,  <math>F = 8\text{кН}</math>,  <math>\alpha = 75^\circ</math>,  <math>\beta = 60^\circ</math>,  <math>Q = 60\text{кН}</math>.</p>
<p><b>Вариант 9</b></p>  <p><b>C6.</b>  <math>P = 35\text{кН}</math>,  <math>F = 9\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 45^\circ</math>,  <math>Q = 50\text{кН}</math>.</p>	<p><b>Вариант 10</b></p>  <p><b>C6.</b>  <math>P = 10\text{кН}</math>,  <math>F = 10\text{кН}</math>,  <math>\alpha = 40^\circ</math>,  <math>\beta = 30^\circ</math>,  <math>Q = 30\text{кН}</math>.</p>

**Вариант 11****C6.**

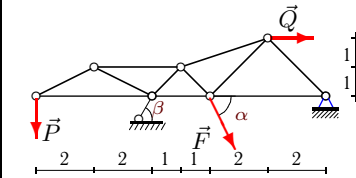
$P = 25 \text{ кН}$ ,  
 $F = 11 \text{ кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 30 \text{ кН}$ .

**Вариант 12****C6.**

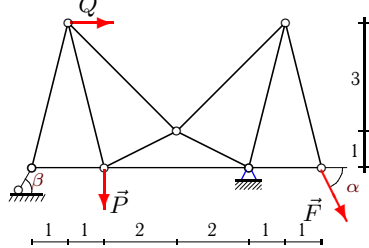
$P = 15 \text{ кН}$ ,  
 $F = 12 \text{ кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 40 \text{ кН}$ .

**Вариант 13****C6.**

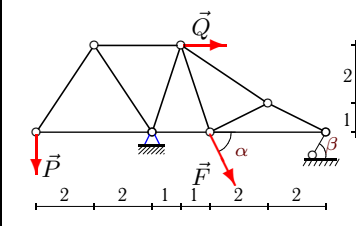
$P = 35 \text{ кН}$ ,  
 $F = 13 \text{ кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 40 \text{ кН}$ .

**Вариант 14****C6.**

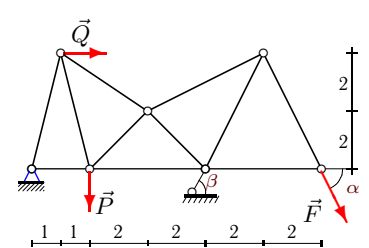
$P = 10 \text{ кН}$ ,  
 $F = 14 \text{ кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 50 \text{ кН}$ .

**Вариант 15****C6.**

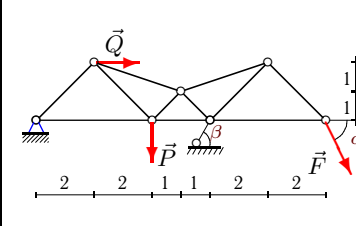
$P = 15 \text{ кН}$ ,  
 $F = 15 \text{ кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 20 \text{ кН}$ .

**Вариант 16****C6.**

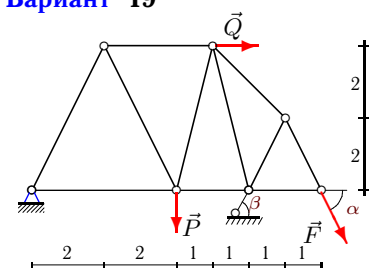
$P = 20 \text{ кН}$ ,  
 $F = 16 \text{ кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 50 \text{ кН}$ .

**Вариант 17****C6.**

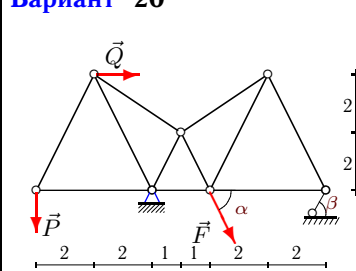
$P = 40 \text{ кН}$ ,  
 $F = 17 \text{ кН}$ ,  
 $\alpha = 70^\circ$ ,  
 $\beta = 60^\circ$ ,  
 $Q = 60 \text{ кН}$ .

**Вариант 18****C6.**

$P = 45 \text{ кН}$ ,  
 $F = 18 \text{ кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 60^\circ$ ,  
 $Q = 50 \text{ кН}$ .

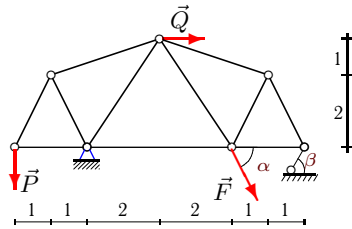
**Вариант 19****C6.**

$P = 10 \text{ кН}$ ,  
 $F = 19 \text{ кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 10 \text{ кН}$ .

**Вариант 20****C6.**

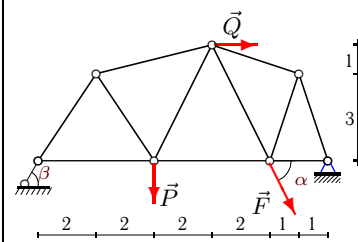
$P = 35 \text{ кН}$ ,  
 $F = 20 \text{ кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 50 \text{ кН}$ .

**Вариант 21**



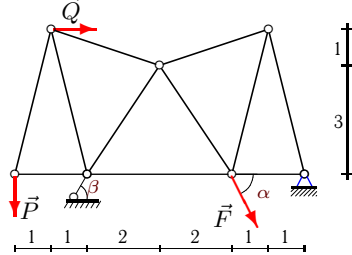
**C6.**  
 $P = 10\text{кН}$ ,  
 $F = 21\text{кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 20\text{кН}$ .

**Вариант 22**



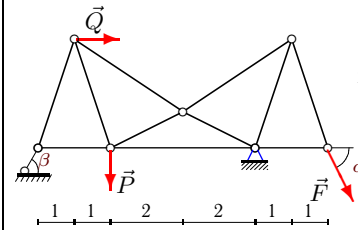
**C6.**  
 $P = 20\text{кН}$ ,  
 $F = 22\text{кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 30\text{кН}$ .

**Вариант 23**



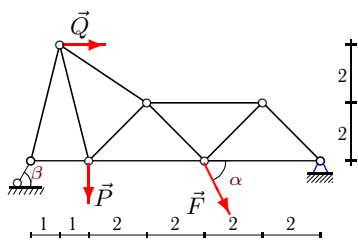
**C6.**  
 $P = 5\text{кН}$ ,  
 $F = 23\text{кН}$ ,  
 $\alpha = 35^\circ$ ,  
 $\beta = 30^\circ$ ,  
 $Q = 20\text{кН}$ .

**Вариант 24**



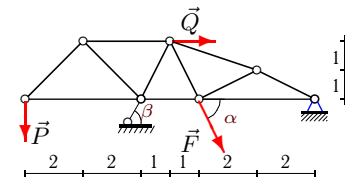
**C6.**  
 $P = 35\text{кН}$ ,  
 $F = 24\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 20\text{кН}$ .

**Вариант 25**



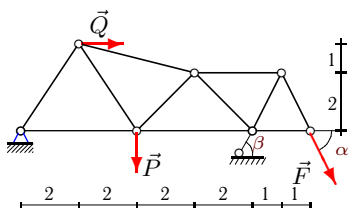
**C6.**  
 $P = 40\text{кН}$ ,  
 $F = 25\text{кН}$ ,  
 $\alpha = 70^\circ$ ,  
 $\beta = 60^\circ$ ,  
 $Q = 60\text{кН}$ .

**Вариант 26**



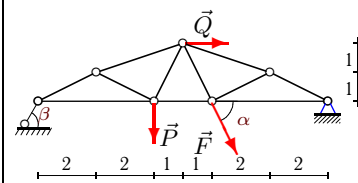
**C6.**  
 $P = 45\text{кН}$ ,  
 $F = 26\text{кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 60^\circ$ ,  
 $Q = 50\text{кН}$ .

**Вариант 27**



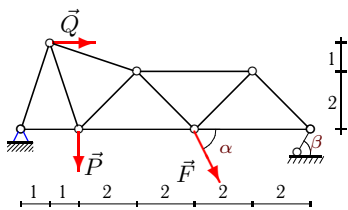
**C6.**  
 $P = 20\text{кН}$ ,  
 $F = 27\text{кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 30\text{кН}$ .

**Вариант 28**



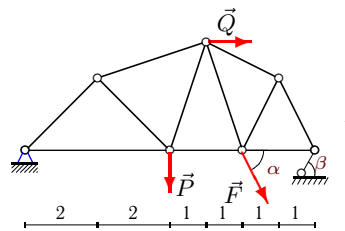
**C6.**  
 $P = 25\text{кН}$ ,  
 $F = 28\text{кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 50\text{кН}$ .

**Вариант 29**



**C6.**  
 $P = 35\text{кН}$ ,  
 $F = 29\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 60\text{кН}$ .

**Вариант 30**



**C6.**  
 $P = 20\text{кН}$ ,  
 $F = 30\text{кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ ,  
 $Q = 10\text{кН}$ .

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	-67.233	-0.840	37.702	66.813	53.473	39.989	0.940	0.840	24.050	-29.806	-0.940	28.890	-13.975	14.891
2	-42.052	20.766	1.083	-0.511	61.532	-0.520	-0.807	-85.936	-83.064	-46.434	64.861	-58.735	-27.201	46.434
3	-79.327	1.414	31.414	-30.000	54.798	58.620	33.541	30.905	-32.362	-35.122	4.792	-3.749	4.601	-5.017
4	-59.782	-35.568	97.494	-90.000	-189.315	-71.638	100.623	180.000	71.514	37.492	-100.623	-55.765	127.279	-90.796
5	-28.932	33.032	-5.567	-25.000	-13.036	-7.872	35.355	50.000	6.224	5.567	-35.355	-11.359	8.576	-2.783
6	-42.597	3.464	20.785	44.329	56.453	28.393	-3.873	-29.680	-20.785	-14.697	14.367	-6.372	-14.615	14.697
7	-36.789	21.644	28.791	47.612	38.434	26.862	-24.199	-19.510	-22.475	-27.876	12.100	32.622	-6.584	13.938
8	-70.796	37.614	17.452	-22.500	18.410	18.802	50.312	45.000	49.290	-18.164	-50.312	10.446	6.460	3.797
9	-58.066	38.894	6.028	0.000	-11.106	-38.619	-6.028	-8.525	20.022	-43.485	6.028	34.365	-21.949	31.068
10	-74.280	-4.714	42.285	71.923	80.137	41.905	5.271	-37.694	-15.246	-21.793	13.576	-3.030	-32.769	30.510
11	-41.111	29.209	6.791	-2.401	-1.865	-31.375	-5.369	-40.998	-19.472	-30.789	16.486	12.324	-24.275	30.789
12	-49.339	22.993	0.985	-0.361	-5.361	-3.353	-0.697	-0.697	-47.372	-51.413	0.000	15.811	12.407	-7.345
13	-106.558	-14.282	86.358	99.417	67.635	-18.070	15.968	14.282	29.806	26.345	-15.968	55.099	-65.637	-5.269
14	-71.116	13.000	11.999	-20.000	-54.392	-58.116	22.361	40.000	37.948	-18.384	-22.361	5.658	11.313	1.413
15	-18.709	32.475	-13.738	10.180	14.422	7.955	7.080	-31.236	10.000	10.933	15.687	-0.489	-33.089	-18.222
16	-76.037	16.504	22.277	-13.333	48.205	47.257	24.037	26.667	-32.455	-35.223	-24.037	3.685	15.292	-5.032
17	-111.978	-23.983	92.327	105.982	84.012	-2.173	24.721	-69.239	23.814	17.860	14.867	36.171	-75.425	-29.767
18	-98.332	-13.258	87.347	85.074	37.043	-12.728	18.749	-37.132	54.981	24.588	-2.143	65.783	-57.800	-49.177
19	-75.853	-7.404	59.235	72.151	64.098	8.448	8.278	7.404	11.514	13.655	-8.278	17.940	-26.333	-4.552
20	-74.494	37.084	22.687	-17.500	55.536	24.063	39.131	-27.042	-28.920	-17.936	-22.361	-19.101	-15.605	35.871
21	-63.221	7.833	31.331	-5.000	55.109	34.967	11.180	9.035	-14.154	-17.515	-7.986	-0.829	2.775	12.511
22	-47.512	33.482	4.767	-1.124	-8.315	-36.351	-4.051	-3.971	-21.176	-35.294	2.894	19.669	-11.105	28.235
23	-34.910	20.462	-4.538	-1.250	2.418	-29.795	5.154	-20.124	-11.765	-21.091	1.406	1.088	-13.208	24.926
24	-36.226	50.669	8.602	-4.055	-11.751	2.892	-6.412	-37.171	22.407	22.928	28.146	18.556	-36.868	-36.030
25	-78.595	46.095	20.088	-5.695	44.750	-32.499	-17.932	-99.078	-92.191	-65.189	74.583	-45.758	-31.966	65.189
26	-100.074	-4.962	86.690	-45.000	-118.307	-109.998	63.640	90.000	12.553	11.095	-63.640	-33.626	29.188	-2.219
27	-94.459	-6.421	66.615	90.179	70.197	7.014	7.717	-26.518	20.683	23.125	0.013	28.269	-37.365	-23.125
28	-80.235	33.762	20.046	14.175	8.762	-12.711	-31.695	-35.859	-85.411	-75.494	6.339	24.781	18.094	15.099
29	-113.026	20.513	57.657	119.863	149.052	81.540	-21.623	-87.368	-81.540	-57.657	50.746	-18.585	-20.487	57.657
30	-60.270	11.995	43.821	72.265	73.595	46.479	-16.964	-18.966	-27.715	-34.643	8.482	14.760	4.627	20.786