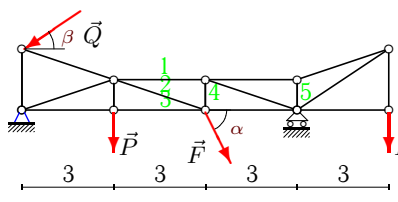
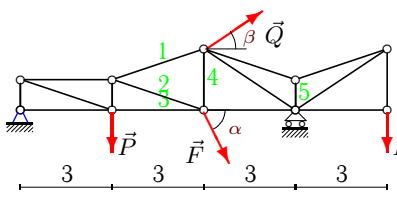
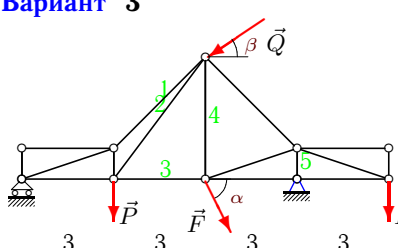
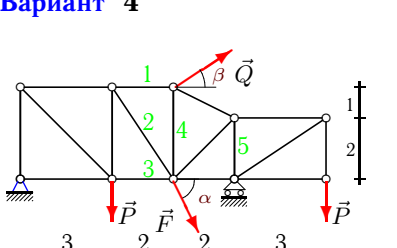
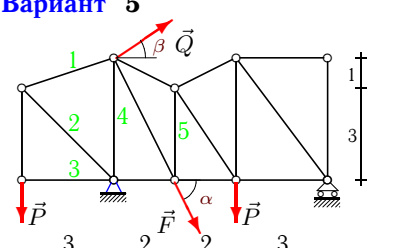
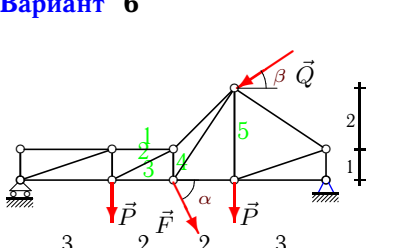
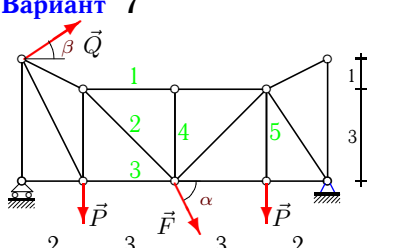
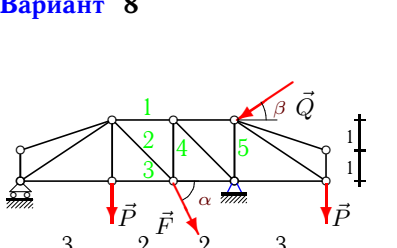
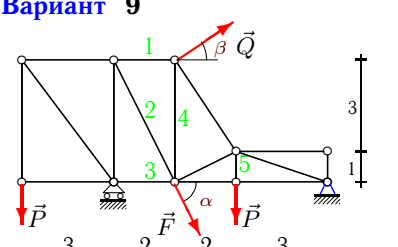
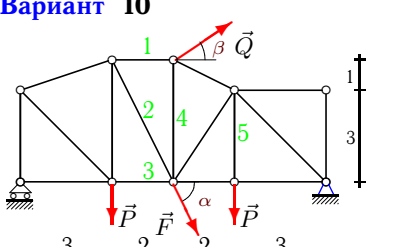
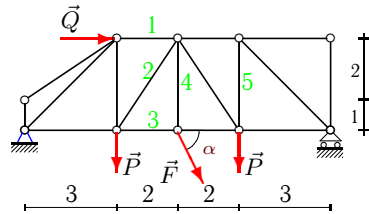


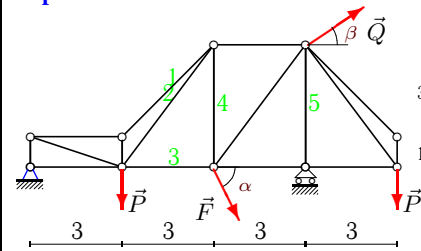
## Расчет фермы

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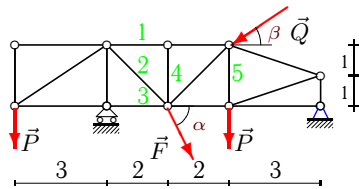
<p><b>Вариант 1</b></p>  <p><b>C5.</b>  <math>P = 20\text{кН}</math>,  <math>Q = 90\text{кН}</math>,  <math>F = 35\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 15^\circ</math>.</p>	<p><b>Вариант 2</b></p>  <p><b>C5.</b>  <math>P = 80\text{кН}</math>,  <math>Q = 70\text{кН}</math>,  <math>F = 44\text{кН}</math>,  <math>\alpha = 50^\circ</math>,  <math>\beta = 15^\circ</math>.</p>
<p><b>Вариант 3</b></p>  <p><b>C5.</b>  <math>P = 20\text{кН}</math>,  <math>Q = 40\text{кН}</math>,  <math>F = 53\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 45^\circ</math>.</p>	<p><b>Вариант 4</b></p>  <p><b>C5.</b>  <math>P = 90\text{кН}</math>,  <math>Q = 50\text{кН}</math>,  <math>F = 52\text{кН}</math>,  <math>\alpha = 55^\circ</math>,  <math>\beta = 15^\circ</math>.</p>
<p><b>Вариант 5</b></p>  <p><b>C5.</b>  <math>P = 40\text{кН}</math>,  <math>Q = 40\text{кН}</math>,  <math>F = 66\text{кН}</math>,  <math>\alpha = 75^\circ</math>,  <math>\beta = 30^\circ</math>.</p>	<p><b>Вариант 6</b></p>  <p><b>C5.</b>  <math>P = 80\text{кН}</math>,  <math>Q = 80\text{кН}</math>,  <math>F = 75\text{кН}</math>,  <math>\alpha = 50^\circ</math>,  <math>\beta = 30^\circ</math>.</p>
<p><b>Вариант 7</b></p>  <p><b>C5.</b>  <math>P = 20\text{кН}</math>,  <math>Q = 60\text{кН}</math>,  <math>F = 74\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 30^\circ</math>.</p>	<p><b>Вариант 8</b></p>  <p><b>C5.</b>  <math>P = 30\text{кН}</math>,  <math>Q = 80\text{кН}</math>,  <math>F = 97\text{кН}</math>,  <math>\alpha = 70^\circ</math>,  <math>\beta = 45^\circ</math>.</p>
<p><b>Вариант 9</b></p>  <p><b>C5.</b>  <math>P = 20\text{кН}</math>,  <math>Q = 80\text{кН}</math>,  <math>F = 110\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 45^\circ</math>.</p>	<p><b>Вариант 10</b></p>  <p><b>C5.</b>  <math>P = 30\text{кН}</math>,  <math>Q = 60\text{кН}</math>,  <math>F = 10\text{кН}</math>,  <math>\alpha = 70^\circ</math>,  <math>\beta = 30^\circ</math>.</p>

**Вариант 11**

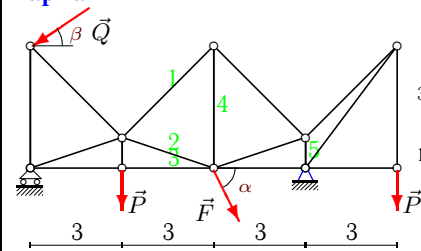
**C5.**  
 $P = 20\text{кН}$ ,  
 $Q = 80\text{кН}$ ,  
 $F = 11\text{кН}$ ,  
 $\alpha = 65^\circ$ .

**Вариант 12**

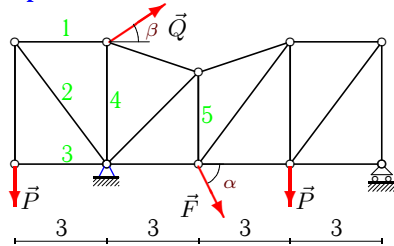
**C5.**  
 $P = 90\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 12\text{кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 13**

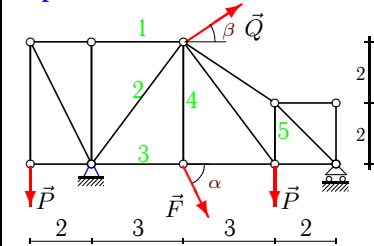
**C5.**  
 $P = 70\text{кН}$ ,  
 $Q = 70\text{кН}$ ,  
 $F = 13\text{кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 14**

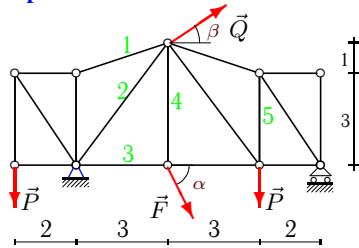
**C5.**  
 $P = 20\text{кН}$ ,  
 $Q = 50\text{кН}$ ,  
 $F = 14\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 15**

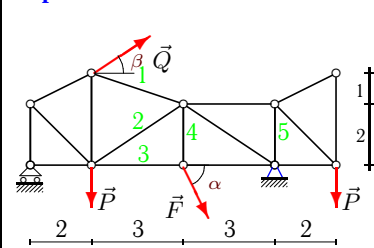
**C5.**  
 $P = 50\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 15\text{кН}$ ,  
 $\alpha = 35^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 16**

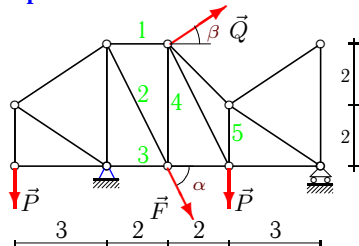
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 16\text{кН}$ ,  
 $\alpha = 60^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 17**

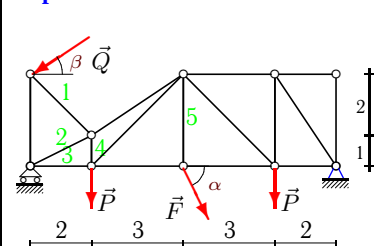
**C5.**  
 $P = 60\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 17\text{кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 18**

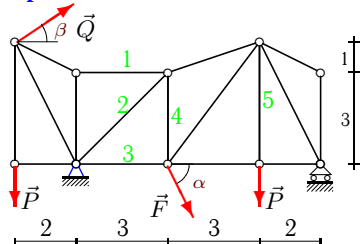
**C5.**  
 $P = 80\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 18\text{кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 19**

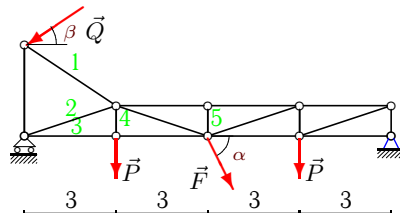
**C5.**  
 $P = 60\text{кН}$ ,  
 $Q = 50\text{кН}$ ,  
 $F = 19\text{кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 20**

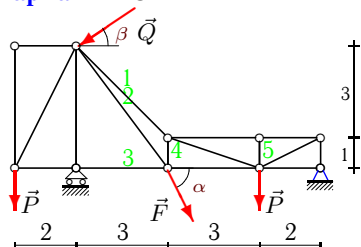
**C5.**  
 $P = 50\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 20\text{кН}$ ,  
 $\alpha = 35^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 21**

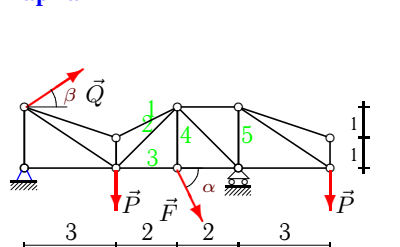
**C5.**  
 $P = 70\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 21\text{кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 22**

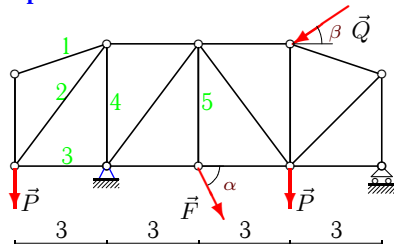
**C5.**  
 $P = 40\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 22\text{кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 23**

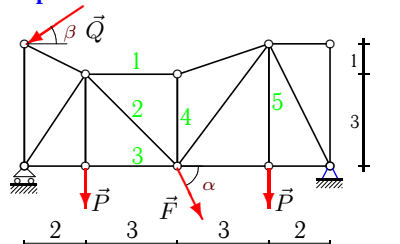
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 80\text{кН}$ ,  
 $F = 23\text{кН}$ ,  
 $\alpha = 60^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 24**

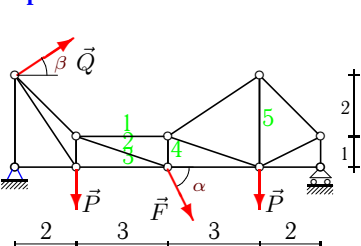
**C5.**  
 $P = 20\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 24\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 25**

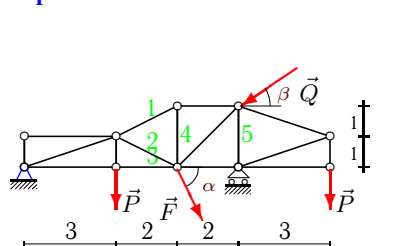
**C5.**  
 $P = 40\text{кН}$ ,  
 $Q = 60\text{кН}$ ,  
 $F = 25\text{кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 26**

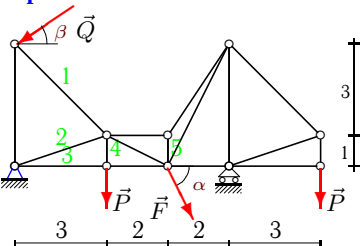
**C5.**  
 $P = 90\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 26\text{кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 27**

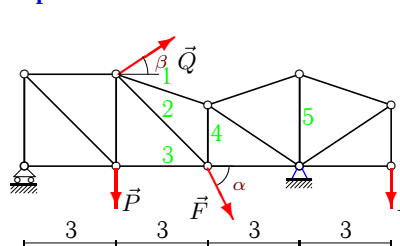
**C5.**  
 $P = 20\text{кН}$ ,  
 $Q = 60\text{кН}$ ,  
 $F = 27\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 28**

**C5.**  
 $P = 20\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 28\text{кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 29**

**C5.**  
 $P = 40\text{кН}$ ,  
 $Q = 70\text{кН}$ ,  
 $F = 29\text{кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 30**

**C5.**  
 $P = 80\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 30\text{кН}$ ,  
 $\alpha = 50^\circ$ ,  
 $\beta = 45^\circ$ .

Отвeты

	$X_A$	$Y_A$	$R_B$	$S_1$	$S_2$	$S_3$	$S_4$	$S_5$
1	72.142	59.852	35.162	14.514	52.363	-49.399	15.162	20.000
2	-95.897	16.837	158.751	73.247	-126.491	146.410	73.706	160.000
3	5.886	71.642	44.677	-189.548	136.692	52.015	20.124	-71.642
4	-78.122	0.632	209.023	58.947	-107.407	78.754	7.615	-119.023
5	-51.723	80.027	43.724	31.623	-42.426	0.000	-50.027	-19.379
6	21.073	115.942	141.511	-424.534	-137.543	547.556	-486.045	41.353
7	-83.235	74.318	2.749	-103.863	18.029	39.153	0.000	20.000
8	23.393	161.228	46.491	-86.228	23.322	69.737	74.659	-86.569
9	-103.057	47.504	35.622	7.189	17.466	-15.000	130.638	20.000
10	-55.382	40.483	-1.086	16.358	-34.755	-0.815	47.802	30.000
11	-84.649	0.985	48.985	-80.985	22.854	72.957	9.969	48.985
12	-93.816	-5.360	171.897	22.742	99.099	18.276	-95.360	-171.897
13	40.305	26.769	171.921	3.079	144.139	-105.000	0.000	56.616
14	29.439	26.079	61.965	14.766	53.919	-26.237	-20.882	53.921
15	-90.230	9.428	54.176	37.500	-62.500	0.000	58.481	-15.022
16	-85.942	-43.436	32.292	5.000	66.795	40.865	13.856	10.764
17	-39.004	74.464	41.463	42.164	-34.747	19.852	10.927	32.249
18	-75.210	136.573	-26.424	-48.513	49.473	-58.780	13.789	-80.000
19	-57.856	77.551	29.662	36.224	19.623	12.856	-5.338	-14.831
20	61.559	32.353	124.118	110.227	-2.630	2.352	129.512	11.472
21	-40.830	82.540	57.309	2.026	-38.948	40.364	19.035	70.000
22	20.287	44.130	72.120	31.225	-125.858	119.400	40.000	0.000
23	45.069	-15.815	112.302	154.254	-79.176	-5.000	83.259	0.000
24	-39.121	-6.972	60.959	-67.454	69.825	21.102	21.751	-20.000
25	45.491	115.859	18.289	0.000	50.000	-30.000	-40.000	24.148
26	63.029	69.472	176.826	-25.787	59.151	61.903	-8.596	90.000
27	-69.366	-0.681	49.622	-188.109	-16.291	214.974	29.622	55.135
28	17.144	18.387	54.754	-29.032	-32.639	38.016	12.984	-44.754
29	60.109	70.472	55.657	95.622	48.257	-105.889	40.000	133.029
30	-40.497	148.654	13.114	17.939	-72.614	13.114	74.327	-53.333