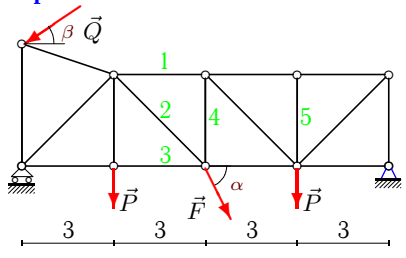
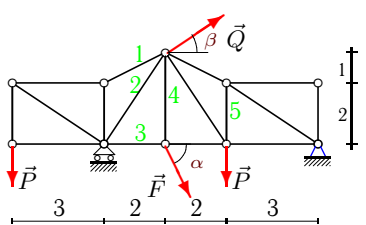
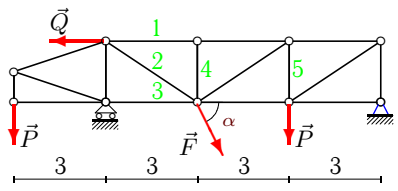
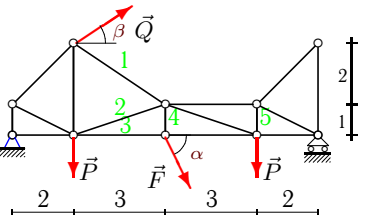
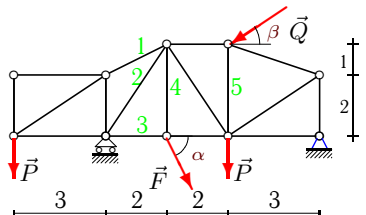
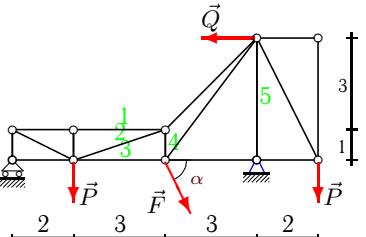
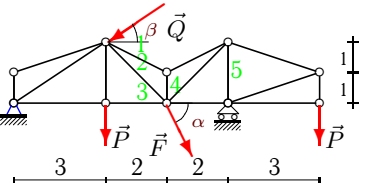
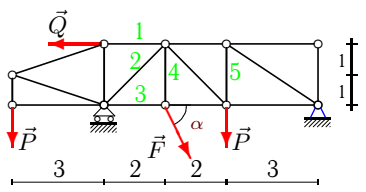
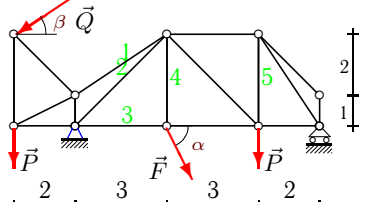
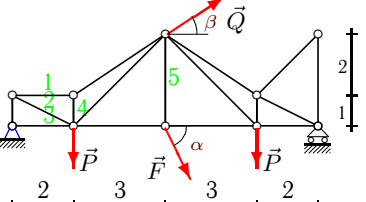
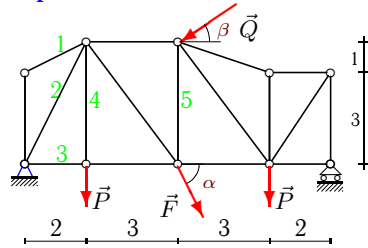


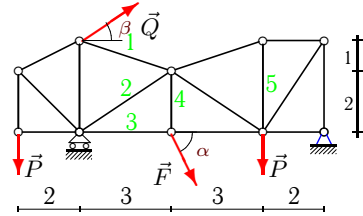
## Расчет фермы

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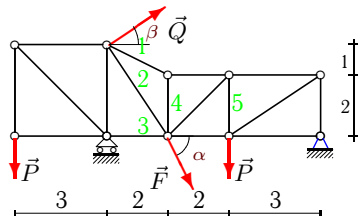
<p><b>Вариант 1</b></p>  <p><b>C5.</b>  <math>P = 90\text{кН}</math>,  <math>Q = 70\text{кН}</math>,  <math>F = 35\text{кН}</math>,  <math>\alpha = 55^\circ</math>,  <math>\beta = 30^\circ</math>.</p>	<p><b>Вариант 2</b></p>  <p><b>C5.</b>  <math>P = 80\text{кН}</math>,  <math>Q = 50\text{кН}</math>,  <math>F = 38\text{кН}</math>,  <math>\alpha = 50^\circ</math>,  <math>\beta = 45^\circ</math>.</p>
<p><b>Вариант 3</b></p>  <p><b>C5.</b>  <math>P = 10\text{кН}</math>,  <math>Q = 90\text{кН}</math>,  <math>F = 58\text{кН}</math>,  <math>\alpha = 60^\circ</math>.</p>	<p><b>Вариант 4</b></p>  <p><b>C5.</b>  <math>P = 20\text{кН}</math>,  <math>Q = 30\text{кН}</math>,  <math>F = 42\text{кН}</math>,  <math>\alpha = 65^\circ</math>,  <math>\beta = 15^\circ</math>.</p>
<p><b>Вариант 5</b></p>  <p><b>C5.</b>  <math>P = 60\text{кН}</math>,  <math>Q = 30\text{кН}</math>,  <math>F = 61\text{кН}</math>,  <math>\alpha = 40^\circ</math>,  <math>\beta = 45^\circ</math>.</p>	<p><b>Вариант 6</b></p>  <p><b>C5.</b>  <math>P = 90\text{кН}</math>,  <math>Q = 40\text{кН}</math>,  <math>F = 66\text{кН}</math>,  <math>\alpha = 55^\circ</math>.</p>
<p><b>Вариант 7</b></p>  <p><b>C5.</b>  <math>P = 30\text{кН}</math>,  <math>Q = 30\text{кН}</math>,  <math>F = 83\text{кН}</math>,  <math>\alpha = 70^\circ</math>,  <math>\beta = 15^\circ</math>.</p>	<p><b>Вариант 8</b></p>  <p><b>C5.</b>  <math>P = 90\text{кН}</math>,  <math>Q = 30\text{кН}</math>,  <math>F = 98\text{кН}</math>,  <math>\alpha = 55^\circ</math>.</p>
<p><b>Вариант 9</b></p>  <p><b>C5.</b>  <math>P = 30\text{кН}</math>,  <math>Q = 40\text{кН}</math>,  <math>F = 93\text{кН}</math>,  <math>\alpha = 70^\circ</math>,  <math>\beta = 30^\circ</math>.</p>	<p><b>Вариант 10</b></p>  <p><b>C5.</b>  <math>P = 50\text{кН}</math>,  <math>Q = 50\text{кН}</math>,  <math>F = 10\text{кН}</math>,  <math>\alpha = 35^\circ</math>,  <math>\beta = 15^\circ</math>.</p>

**Вариант 11**

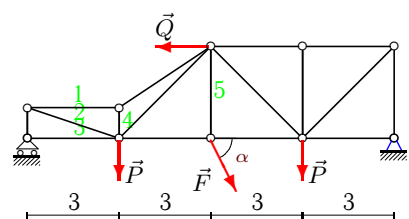
**C5.**  
 $P = 50 \text{ кН}$ ,  
 $Q = 60 \text{ кН}$ ,  
 $F = 11 \text{ кН}$ ,  
 $\alpha = 35^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 12**

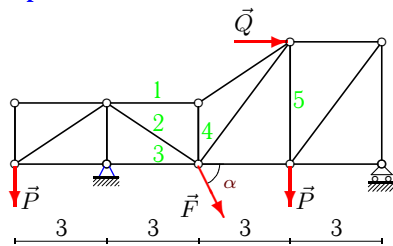
**C5.**  
 $P = 30 \text{ кН}$ ,  
 $Q = 30 \text{ кН}$ ,  
 $F = 12 \text{ кН}$ ,  
 $\alpha = 70^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 13**

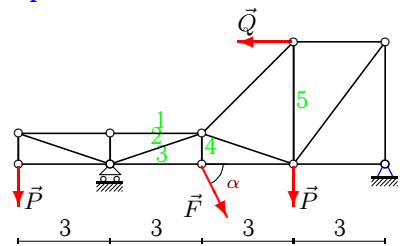
**C5.**  
 $P = 30 \text{ кН}$ ,  
 $Q = 80 \text{ кН}$ ,  
 $F = 13 \text{ кН}$ ,  
 $\alpha = 70^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 14**

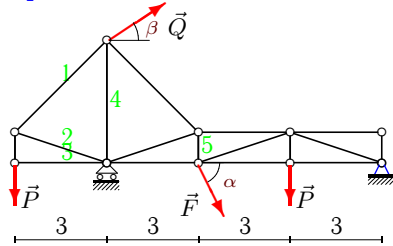
**C5.**  
 $P = 40 \text{ кН}$ ,  
 $Q = 90 \text{ кН}$ ,  
 $F = 14 \text{ кН}$ ,  
 $\alpha = 75^\circ$ .

**Вариант 15**

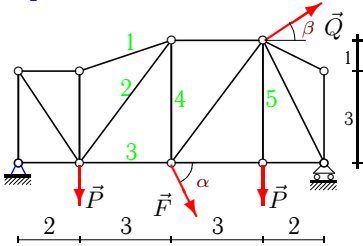
**C5.**  
 $P = 60 \text{ кН}$ ,  
 $Q = 90 \text{ кН}$ ,  
 $F = 15 \text{ кН}$ ,  
 $\alpha = 40^\circ$ .

**Вариант 16**

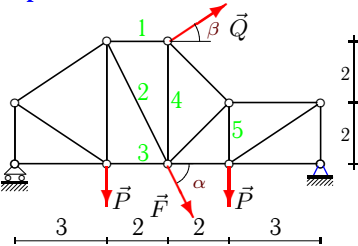
**C5.**  
 $P = 90 \text{ кН}$ ,  
 $Q = 60 \text{ кН}$ ,  
 $F = 16 \text{ кН}$ ,  
 $\alpha = 55^\circ$ .

**Вариант 17**

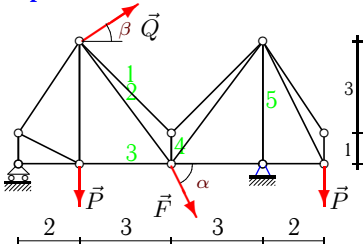
**C5.**  
 $P = 40 \text{ кН}$ ,  
 $Q = 50 \text{ кН}$ ,  
 $F = 17 \text{ кН}$ ,  
 $\alpha = 75^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 18**

**C5.**  
 $P = 90 \text{ кН}$ ,  
 $Q = 90 \text{ кН}$ ,  
 $F = 18 \text{ кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 15^\circ$ .

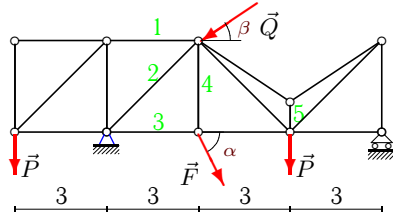
**Вариант 19**

**C5.**  
 $P = 70 \text{ кН}$ ,  
 $Q = 40 \text{ кН}$ ,  
 $F = 19 \text{ кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 20**

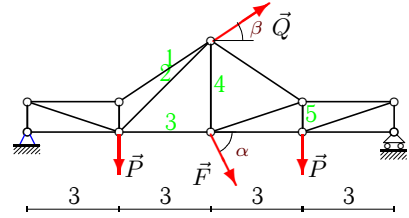
**C5.**  
 $P = 20 \text{ кН}$ ,  
 $Q = 30 \text{ кН}$ ,  
 $F = 20 \text{ кН}$ ,  
 $\alpha = 65^\circ$ ,  
 $\beta = 45^\circ$ .

**Вариант 21**



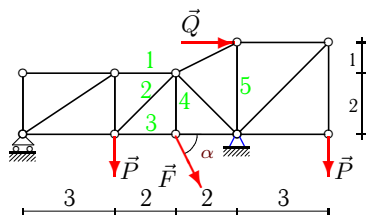
**C5.**  
 $P = 60\text{кН}$ ,  
 $Q = 40\text{кН}$ ,  
 $F = 21\text{кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 22**



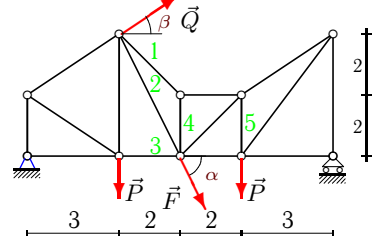
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 70\text{кН}$ ,  
 $F = 22\text{кН}$ ,  
 $\alpha = 60^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 23**



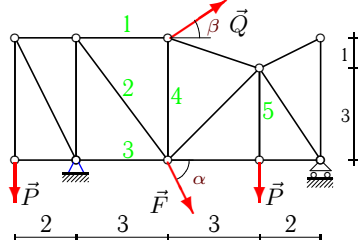
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 90\text{кН}$ ,  
 $F = 23\text{кН}$ ,  
 $\alpha = 60^\circ$ .

**Вариант 24**



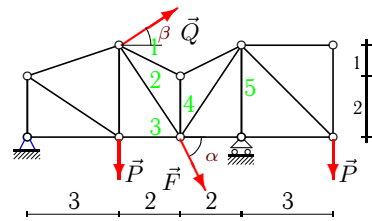
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 24\text{кН}$ ,  
 $\alpha = 60^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 25**



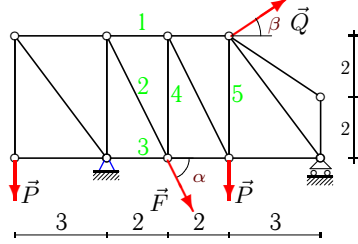
**C5.**  
 $P = 60\text{кН}$ ,  
 $Q = 60\text{кН}$ ,  
 $F = 25\text{кН}$ ,  
 $\alpha = 40^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 26**



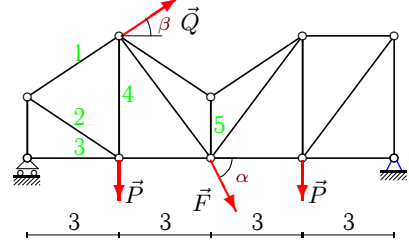
**C5.**  
 $P = 10\text{кН}$ ,  
 $Q = 60\text{кН}$ ,  
 $F = 26\text{кН}$ ,  
 $\alpha = 60^\circ$ ,  
 $\beta = 15^\circ$ .

**Вариант 27**



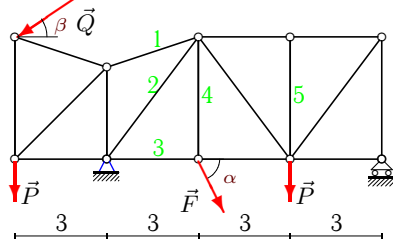
**C5.**  
 $P = 70\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 27\text{кН}$ ,  
 $\alpha = 45^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 28**



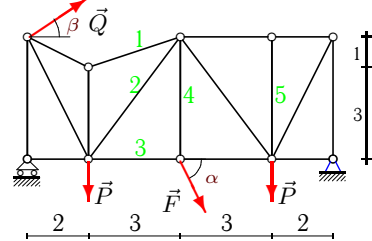
**C5.**  
 $P = 50\text{кН}$ ,  
 $Q = 30\text{кН}$ ,  
 $F = 28\text{кН}$ ,  
 $\alpha = 35^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 29**



**C5.**  
 $P = 30\text{кН}$ ,  
 $Q = 40\text{кН}$ ,  
 $F = 29\text{кН}$ ,  
 $\alpha = 70^\circ$ ,  
 $\beta = 30^\circ$ .

**Вариант 30**



**C5.**  
 $P = 90\text{кН}$ ,  
 $Q = 80\text{кН}$ ,  
 $F = 30\text{кН}$ ,  
 $\alpha = 55^\circ$ ,  
 $\beta = 30^\circ$ .

Отвѣты

	$X_A$	$Y_A$	$R_B$	$S_1$	$S_2$	$S_3$	$S_4$	$S_5$
1	40.547	84.128	159.542	-78.256	48.850	104.335	-5.872	-0.000
2	-59.781	24.796	128.958	134.164	-130.951	-47.361	29.110	6.199
3	61.000	0.076	70.153	14.771	108.442	-15.000	0.000	9.924
4	-46.728	24.127	46.173	-54.159	-132.607	188.614	38.065	46.173
5	-25.516	22.805	157.618	100.623	-171.406	5.079	39.210	-13.612
6	2.144	148.790	85.274	-170.548	14.945	156.370	-161.096	-148.790
7	0.590	39.286	106.473	-70.376	46.661	58.339	-62.946	-91.473
8	-26.210	27.222	233.055	165.000	-202.310	8.055	80.277	27.222
9	2.833	137.610	29.781	245.085	-316.160	51.444	87.391	29.781
10	-56.488	31.909	60.886	-63.817	71.350	56.488	-42.545	5.736
11	48.945	84.101	37.737	0.000	-94.028	-6.894	50.000	-27.792
12	-25.317	27.184	22.880	-1.279	-26.135	1.746	11.276	6.041
13	-61.015	32.020	-16.372	-55.957	42.330	-30.000	-25.025	-2.020
14	86.377	24.261	69.261	-207.784	219.024	0.000	-138.523	13.523
15	-101.491	66.428	63.214	80.358	11.588	11.491	53.572	-3.214
16	50.823	7.702	185.404	270.000	-301.695	16.213	13.106	65.777
17	-39.755	34.520	26.545	42.426	-31.623	0.000	10.711	21.900
18	-97.258	57.940	113.511	-40.716	56.169	102.183	-32.060	90.000
19	-48.076	80.574	52.861	-31.076	-19.162	39.646	85.717	-10.574
20	-29.666	46.632	-9.719	-56.422	39.238	-4.860	-79.793	-46.632
21	18.554	133.879	19.619	60.000	-104.481	-4.675	13.499	-78.477
22	-78.615	-6.436	27.371	23.206	5.040	55.743	31.510	-17.371
23	-101.500	71.370	-31.452	47.178	58.622	-88.630	19.919	-50.000
24	-40.978	3.366	29.654	-90.701	72.969	43.502	-64.135	-49.308
25	-71.113	55.313	50.757	33.515	-5.859	41.113	36.149	60.000
26	-70.956	-25.850	52.838	-31.123	-7.694	45.106	-27.838	-52.838
27	-45.073	122.362	21.730	26.319	58.543	-7.427	-33.270	36.730
28	-48.917	62.940	38.120	-34.361	34.361	0.000	30.940	-151.761
29	24.722	110.230	-2.979	101.391	-115.366	-17.050	27.251	0.000
30	-86.489	130.000	34.574	-149.778	78.487	25.718	24.575	-0.000