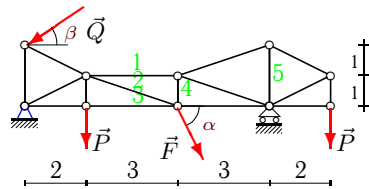


Расчет фермы

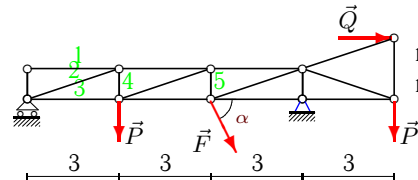
Кирсанов М.Н. Решебник. Теоретическая механика с. 37.

Вариант 1



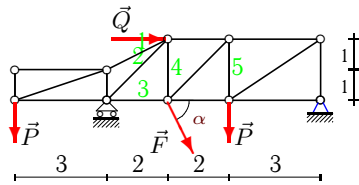
C5.
 $P = 60 \text{ кН}$,
 $Q = 30 \text{ кН}$,
 $F = 19 \text{ кН}$,
 $\alpha = 40^\circ$,
 $\beta = 15^\circ$.

Вариант 2



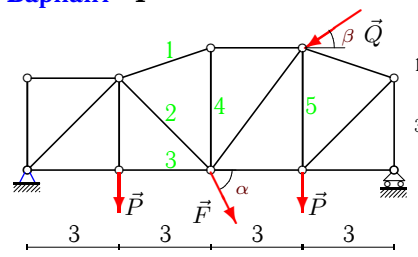
C5.
 $P = 50 \text{ кН}$,
 $Q = 70 \text{ кН}$,
 $F = 43 \text{ кН}$,
 $\alpha = 35^\circ$.

Вариант 3



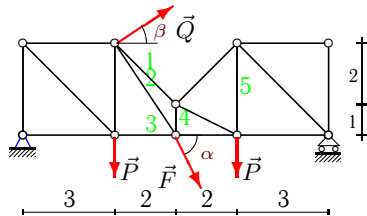
C5.
 $P = 20 \text{ кН}$,
 $Q = 30 \text{ кН}$,
 $F = 45 \text{ кН}$,
 $\alpha = 65^\circ$.

Вариант 4



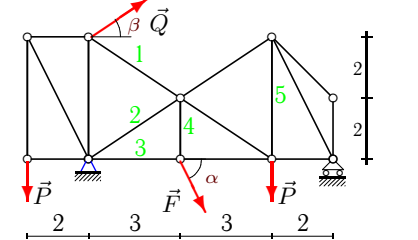
C5.
 $P = 90 \text{ кН}$,
 $Q = 50 \text{ кН}$,
 $F = 69 \text{ кН}$,
 $\alpha = 55^\circ$,
 $\beta = 15^\circ$.

Вариант 5



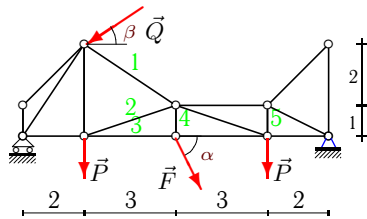
C5.
 $P = 60 \text{ кН}$,
 $Q = 70 \text{ кН}$,
 $F = 66 \text{ кН}$,
 $\alpha = 40^\circ$,
 $\beta = 15^\circ$.

Вариант 6



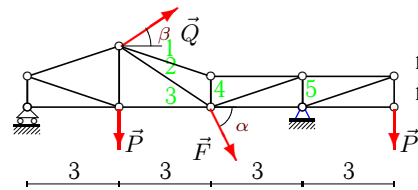
C5.
 $P = 30 \text{ кН}$,
 $Q = 60 \text{ кН}$,
 $F = 62 \text{ кН}$,
 $\alpha = 70^\circ$,
 $\beta = 30^\circ$.

Вариант 7



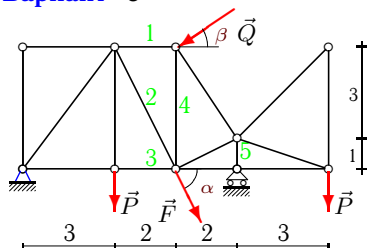
C5.
 $P = 70 \text{ кН}$,
 $Q = 30 \text{ кН}$,
 $F = 73 \text{ кН}$,
 $\alpha = 45^\circ$,
 $\beta = 30^\circ$.

Вариант 8



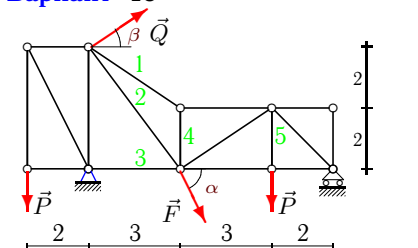
C5.
 $P = 80 \text{ кН}$,
 $Q = 80 \text{ кН}$,
 $F = 108 \text{ кН}$,
 $\alpha = 50^\circ$,
 $\beta = 45^\circ$.

Вариант 9

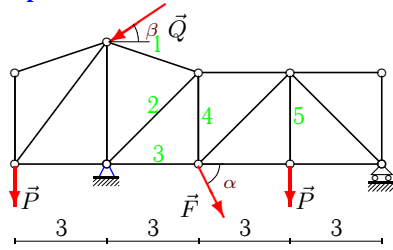


C5.
 $P = 70 \text{ кН}$,
 $Q = 40 \text{ кН}$,
 $F = 111 \text{ кН}$,
 $\alpha = 45^\circ$,
 $\beta = 15^\circ$.

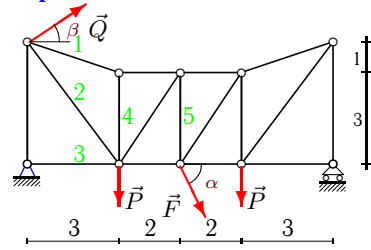
Вариант 10



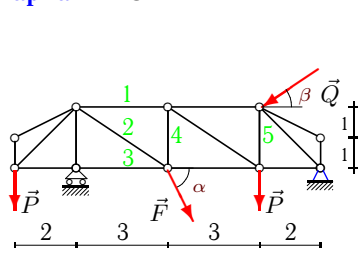
C5.
 $P = 80 \text{ кН}$,
 $Q = 30 \text{ кН}$,
 $F = 10 \text{ кН}$,
 $\alpha = 50^\circ$,
 $\beta = 30^\circ$.

Вариант 11

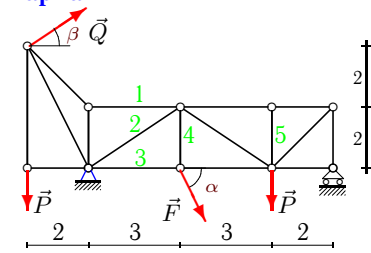
C5.
 $P = 80\text{кН}$,
 $Q = 60\text{кН}$,
 $F = 11\text{кН}$,
 $\alpha = 50^\circ$,
 $\beta = 30^\circ$.

Вариант 12

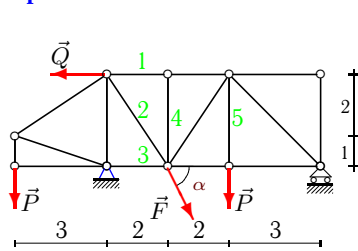
C5.
 $P = 50\text{кН}$,
 $Q = 40\text{кН}$,
 $F = 12\text{кН}$,
 $\alpha = 35^\circ$,
 $\beta = 15^\circ$.

Вариант 13

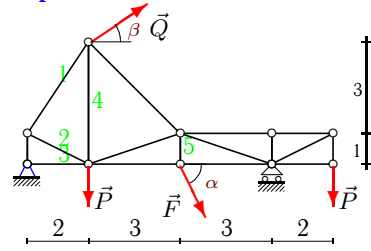
C5.
 $P = 60\text{кН}$,
 $Q = 50\text{кН}$,
 $F = 13\text{кН}$,
 $\alpha = 40^\circ$,
 $\beta = 45^\circ$.

Вариант 14

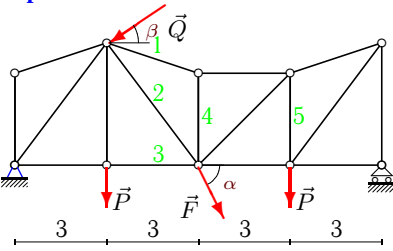
C5.
 $P = 20\text{кН}$,
 $Q = 90\text{кН}$,
 $F = 14\text{кН}$,
 $\alpha = 65^\circ$,
 $\beta = 30^\circ$.

Вариант 15

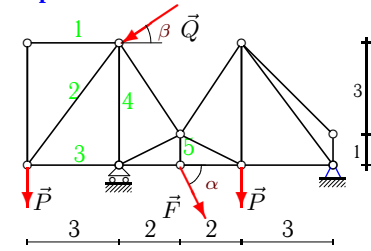
C5.
 $P = 80\text{кН}$,
 $Q = 30\text{кН}$,
 $F = 15\text{кН}$,
 $\alpha = 50^\circ$.

Вариант 16

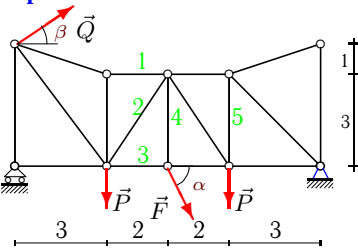
C5.
 $P = 40\text{кН}$,
 $Q = 50\text{кН}$,
 $F = 16\text{кН}$,
 $\alpha = 75^\circ$,
 $\beta = 15^\circ$.

Вариант 17

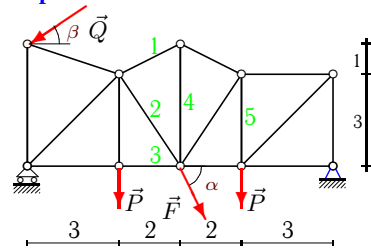
C5.
 $P = 80\text{кН}$,
 $Q = 60\text{кН}$,
 $F = 17\text{кН}$,
 $\alpha = 50^\circ$,
 $\beta = 15^\circ$.

Вариант 18

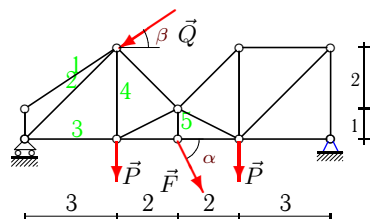
C5.
 $P = 50\text{кН}$,
 $Q = 80\text{кН}$,
 $F = 18\text{кН}$,
 $\alpha = 35^\circ$,
 $\beta = 45^\circ$.

Вариант 19

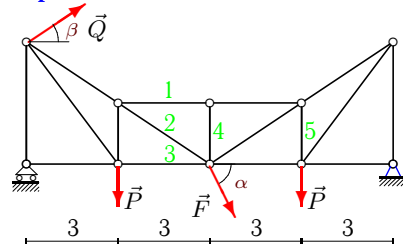
C5.
 $P = 30\text{кН}$,
 $Q = 40\text{кН}$,
 $F = 19\text{кН}$,
 $\alpha = 70^\circ$,
 $\beta = 30^\circ$.

Вариант 20

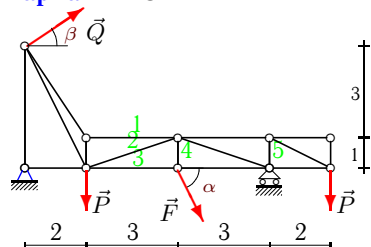
C5.
 $P = 60\text{кН}$,
 $Q = 40\text{кН}$,
 $F = 20\text{кН}$,
 $\alpha = 40^\circ$,
 $\beta = 30^\circ$.

Вариант 21

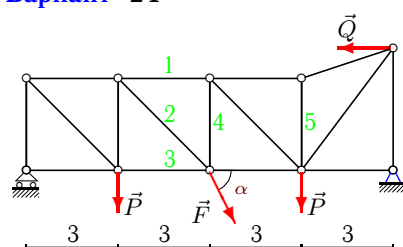
C5.
 $P = 40\text{кН}$,
 $Q = 90\text{кН}$,
 $F = 21\text{кН}$,
 $\alpha = 75^\circ$,
 $\beta = 30^\circ$.

Вариант 22

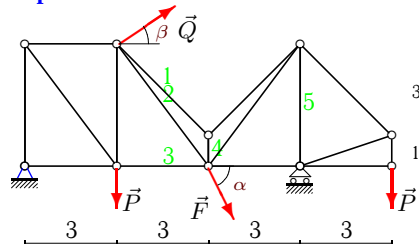
C5.
 $P = 90\text{кН}$,
 $Q = 40\text{кН}$,
 $F = 22\text{кН}$,
 $\alpha = 55^\circ$,
 $\beta = 30^\circ$.

Вариант 23

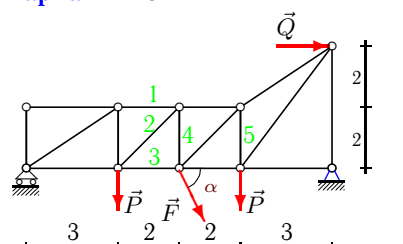
C5.
 $P = 20\text{кН}$,
 $Q = 50\text{кН}$,
 $F = 23\text{кН}$,
 $\alpha = 65^\circ$,
 $\beta = 15^\circ$.

Вариант 24

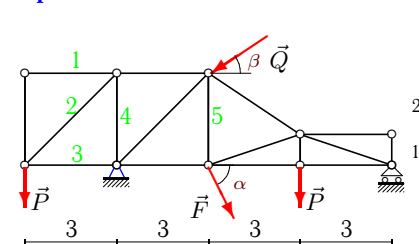
C5.
 $P = 60\text{кН}$,
 $Q = 30\text{кН}$,
 $F = 24\text{кН}$,
 $\alpha = 40^\circ$.

Вариант 25

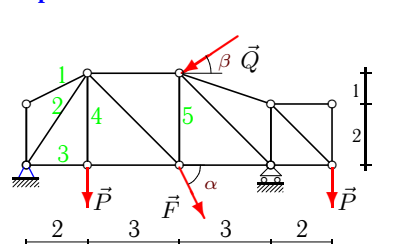
C5.
 $P = 70\text{кН}$,
 $Q = 80\text{кН}$,
 $F = 25\text{кН}$,
 $\alpha = 45^\circ$,
 $\beta = 15^\circ$.

Вариант 26

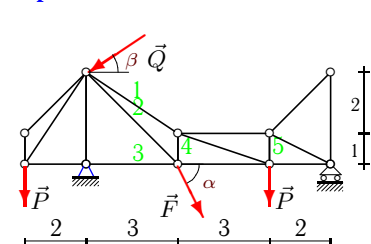
C5.
 $P = 90\text{кН}$,
 $Q = 60\text{кН}$,
 $F = 26\text{кН}$,
 $\alpha = 55^\circ$.

Вариант 27

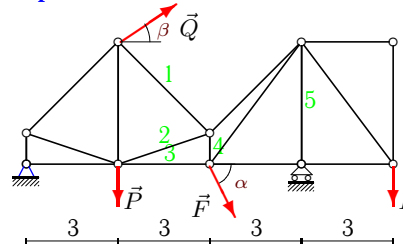
C5.
 $P = 40\text{кН}$,
 $Q = 90\text{кН}$,
 $F = 27\text{кН}$,
 $\alpha = 75^\circ$,
 $\beta = 30^\circ$.

Вариант 28

C5.
 $P = 50\text{кН}$,
 $Q = 40\text{кН}$,
 $F = 28\text{кН}$,
 $\alpha = 35^\circ$,
 $\beta = 15^\circ$.

Вариант 29

C5.
 $P = 10\text{кН}$,
 $Q = 90\text{кН}$,
 $F = 29\text{кН}$,
 $\alpha = 60^\circ$,
 $\beta = 30^\circ$.

Вариант 30

C5.
 $P = 10\text{кН}$,
 $Q = 70\text{кН}$,
 $F = 30\text{кН}$,
 $\alpha = 60^\circ$,
 $\beta = 15^\circ$.

Ответы

	X_A	Y_A	R_B	S_1	S_2	S_3	S_4	S_5
1	14.423	49.589	90.389	28.834	-57.477	40.248	30.389	-50.000
2	-105.224	115.331	9.332	0.000	-29.512	27.997	9.332	-40.668
3	-49.018	23.081	57.703	67.082	-95.746	7.703	37.703	-3.081
4	8.720	137.595	111.868	-146.405	1.835	128.875	46.297	6.099
5	-118.174	48.245	96.061	-509.550	440.681	166.419	-324.245	192.122
6	-73.167	25.432	62.829	-44.422	-90.271	133.277	58.261	83.771
7	-25.638	91.015	115.604	-61.401	-204.481	271.057	51.619	91.015
8	-125.990	182.203	3.961	-70.212	4.927	5.942	-22.203	-102.203
9	-39.852	57.462	171.380	-36.827	-14.018	82.948	-13.068	-171.380
10	-32.409	96.797	55.863	-23.626	56.128	-7.591	-13.105	80.000
11	44.891	192.045	6.381	118.018	-63.250	-60.166	82.045	80.000
12	-48.467	27.634	68.896	-94.344	84.776	48.467	-29.834	-12.013
13	25.397	50.811	112.900	-19.350	95.367	-60.000	-44.544	15.456
14	-83.859	-57.291	64.979	-180.885	58.213	138.365	12.688	-0.000
15	20.358	169.636	1.854	50.243	107.729	-100.358	-0.000	80.000
16	-52.437	-8.058	90.572	7.264	-4.505	52.437	51.164	15.455
17	47.028	117.477	71.075	-65.512	53.330	41.079	-20.717	-14.767
18	41.824	-22.232	189.125	0.000	62.500	-37.500	-247.671	10.324
19	-41.139	52.783	5.071	-71.259	5.924	33.331	17.854	52.783
20	19.320	52.571	100.284	-39.930	2.917	68.737	35.714	7.429
21	72.507	40.260	105.025	0.000	-148.528	105.025	87.108	20.284
22	-47.260	110.558	67.464	-196.673	-4.572	165.837	-0.000	-131.115
23	-58.017	-19.272	67.176	-180.523	83.267	111.249	20.845	-20.000
24	11.615	57.713	77.713	-95.427	25.051	77.713	-2.287	-32.571
25	-94.952	-18.922	155.894	-67.432	-25.668	80.760	-95.364	-138.394
26	-74.913	124.649	76.649	-114.973	18.881	101.622	-13.351	-79.298
27	70.954	140.034	11.046	0.000	56.569	-40.000	-40.000	43.095
28	15.701	49.394	77.019	0.000	-59.364	17.228	50.000	16.666
29	63.442	104.925	-14.810	125.055	-27.496	-70.109	44.557	-14.810
30	-82.615	-30.136	57.999	-63.658	-72.716	128.997	-136.016	-57.999