

Равновесие цепи из 3 звеньев

Найти угол α в положении равновесия цепи и усилия в стержнях.

Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.- М.:ФИЗМАТЛИТ, 2008.- 384 с. (с.21.)

Задача 2.1. 10

$P=29$ кН, $Q=80$ кН.

Задача 2.2. 10

$P=12$ кН, $Q=30$ кН.

Задача 2.3. 10

$P=11$ кН, $Q=1$ кН.

Задача 2.4. 10

$P=27$ кН, $Q=10$ кН.

Задача 2.5. 10

$P=11$ кН, $Q=20$ кН.

Задача 2.6. 10

$P=18$ кН, $Q=10$ кН.

Задача 2.7. 10

$P=29$ кН, $Q=50$ кН.

Задача 2.8. 10

$P=22$ кН, $Q=30$ кН.

Задача 2.9. 10

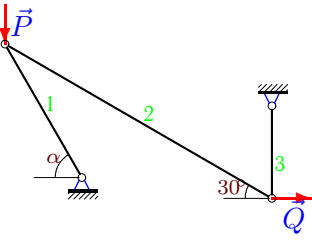
$P=28$ кН, $Q=20$ кН.

Задача 2.10. 10

$P=25$ кН, $Q=30$ кН.

Задача 2.11.

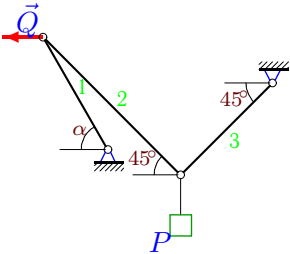
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$P=13 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.13.

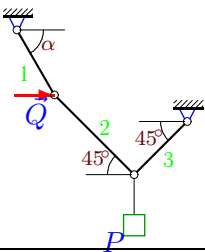
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$P=31 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.15.

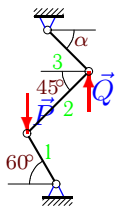
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$P=1 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.17.

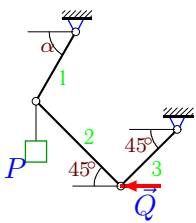
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$P=1 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.19.

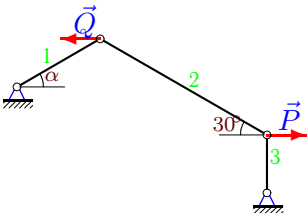
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$P=19 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.21.

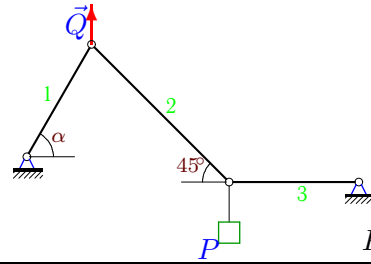
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$P=18 \text{ кН}, Q=40 \text{ кН}.$

Задача 2.12.

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$P=14 \text{ кН}, Q=40 \text{ кН}.$

Задача 2.14.

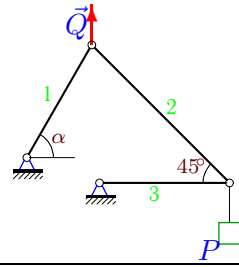
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$P=31 \text{ кН}, Q=80 \text{ кН}.$

Задача 2.16.

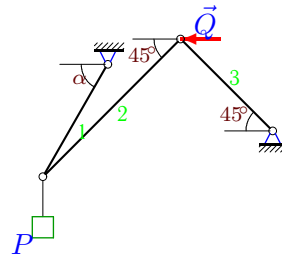
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$P=7 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.18.

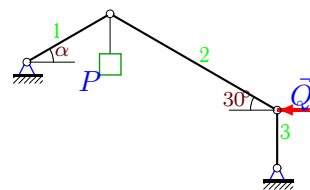
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$P=26 \text{ кН}, Q=70 \text{ кН}.$

Задача 2.20.

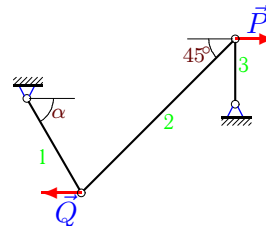
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$P=10 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.22.

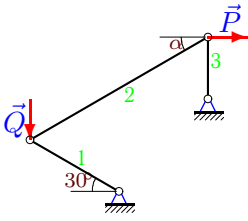
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$P=15 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.23.

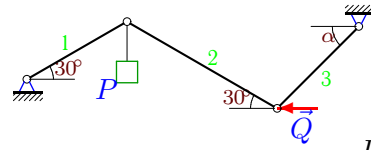
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$P=21 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.24.

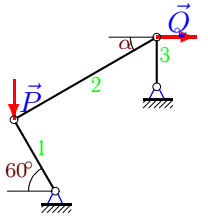
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$P=24 \text{ кН}, Q=30 \text{ кН}.$

Задача 2.25.

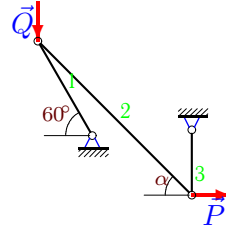
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$P=6 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.26.

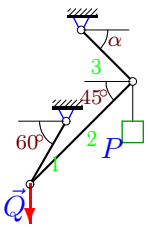
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$P=22 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.27.

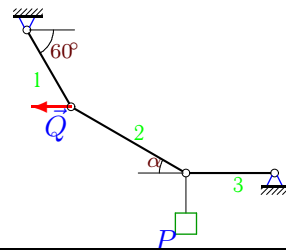
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$P=17 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.28.

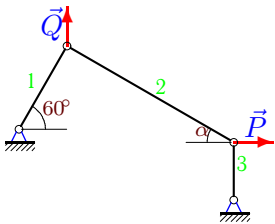
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$P=19 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.29.

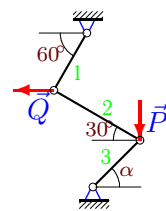
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$P=1 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.30.

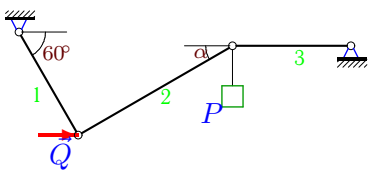
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$P=8 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.31.

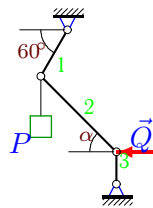
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$P=6 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.32.

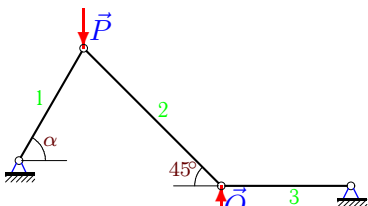
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$P=16 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.33.

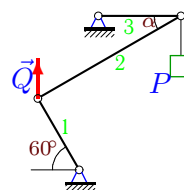
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$P=29 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.34.

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$P=3 \text{ кН}, Q=10 \text{ кН}.$

Равновесие цепи из 3 звеньев

	$\operatorname{tg}\alpha$	α	S_1	S_2	S_3
1	1.019	0.795	-79.229	-56.024	-56.571
2	1.800	1.064	-30.887	21.213	21.213
3	0.173	0.172	11.547	-5.859	5.774
4	1.700	1.039	-19.723	14.142	10.000
5	1.522	0.990	-19.053	-11.000	17.349
6	1.223	0.885	-11.547	15.795	-12.226
7	0.872	0.717	33.486	-44.125	33.257
8	0.999	0.785	60.000	42.399	-29.962
9	0.823	0.688	23.094	25.898	-16.453
10	0.623	0.557	-28.868	29.450	-15.566
11	1.877	1.081	-21.271	11.547	-5.774
12	1.857	1.077	29.530	19.799	14.000
13	2.818	1.230	-16.447	21.920	21.920
14	1.775	1.058	-81.492	-56.569	56.569
15	0.333	0.322	1.581	0.707	0.707
16	1.857	1.077	14.765	9.899	-7.000
17	1.732	1.047	-0.732	0.518	-0.732
18	1.743	1.050	70.328	-49.497	49.497
19	2.800	1.228	14.866	-7.071	7.071
20	0.423	0.400	-10.856	-11.547	-5.774
21	0.472	0.441	-24.331	20.785	10.392
22	3.000	1.249	-15.811	21.213	-15.000
23	0.375	0.359	-24.249	22.428	-7.876
24	1.302	0.916	-24.000	-24.000	15.130
25	4.268	1.341	-2.000	4.384	-4.268
26	0.823	0.689	-44.000	28.492	-18.105
27	0.244	0.240	27.321	-19.319	14.063
28	0.614	0.550	21.939	36.333	30.970
29	0.732	0.632	2.000	1.239	-0.732
30	0.489	0.455	5.000	8.660	-8.350
31	0.918	0.743	6.928	-8.872	-6.536
32	0.132	0.131	20.000	-10.087	1.321
33	1.900	1.086	-21.471	-14.142	-10.000
34	0.742	0.639	8.083	-5.033	4.041