

Равновесие цепи из 3 звеньев

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

Кирсанов М.Н. **Решebник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2002.– 384 с. (с.21.)

Задача 2.1. 3

$P=24$ кН, $Q=20$ кН.

Задача 2.2. 3

$P=4$ кН, $Q=10$ кН.

Задача 2.3. 3

$P=20$ кН, $Q=20$ кН.

Задача 2.4. 3

$P=11$ кН, $Q=10$ кН.

Задача 2.5. 3

$P=33$ кН, $Q=20$ кН.

Задача 2.6. 3

$P=1$ кН, $Q=1$ кН.

Задача 2.7. 3

$P=24$ кН, $Q=40$ кН.

Задача 2.8. 3

$P=5$ кН, $Q=1$ кН.

Задача 2.9. 3

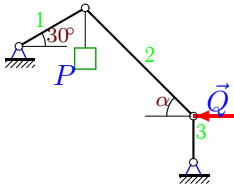
$P=10$ кН, $Q=30$ кН.

Задача 2.10. 3

$P=25$ кН, $Q=10$ кН.

Задача 2.11.

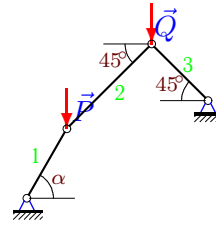
3



$P=19 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.12.

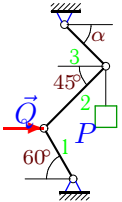
3



$P=20 \text{ кН}, Q=50 \text{ кН}.$

Задача 2.13.

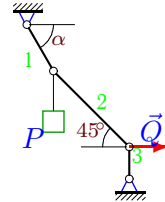
3



$P=3 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.14.

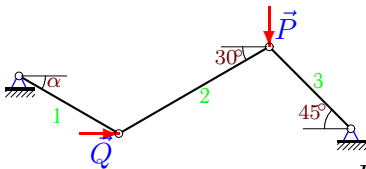
3



$P=30 \text{ кН}, Q=40 \text{ кН}.$

Задача 2.15.

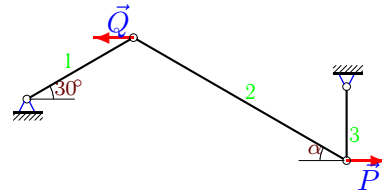
3



$P=19 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.16.

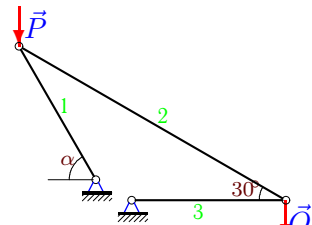
3



$P=5 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.17.

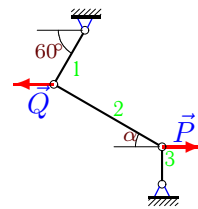
3



$P=27 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.18.

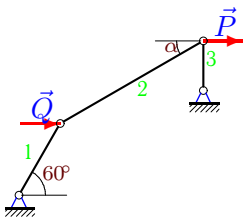
3



$P=24 \text{ кН}, Q=30 \text{ кН}.$

Задача 2.19.

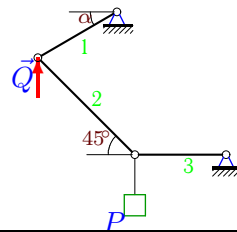
3



$P=4 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.20.

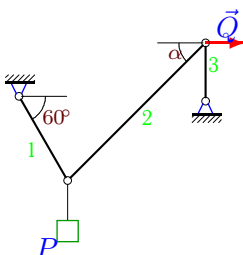
3



$P=31 \text{ кН}, Q=50 \text{ кН}.$

Задача 2.21.

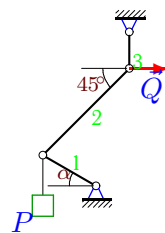
3



$P=16 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.22.

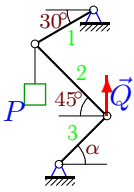
3



$P=7 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.23.

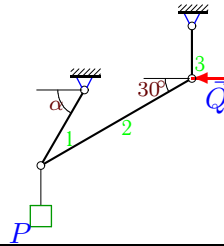
3



$P=13 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.24.

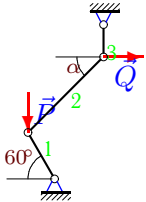
3



$P=12 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.25.

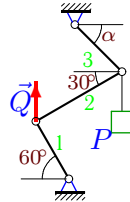
3



$P=22 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.26.

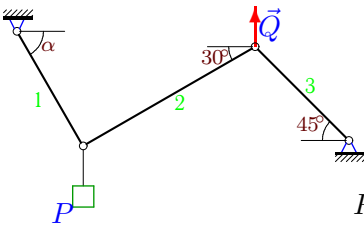
3



$P=27 \text{ кН}, Q=40 \text{ кН}.$

Задача 2.27.

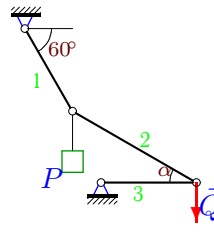
3



$P=31 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.28.

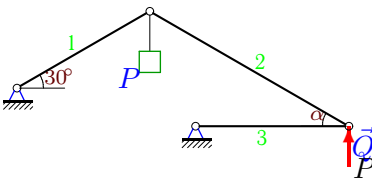
3



$P=10 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.29.

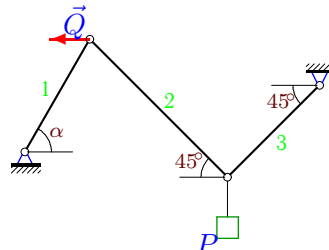
3



$P=25 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.30.

3



$P=15 \text{ кН}, Q=10 \text{ кН}.$

Равновесие цепи из 3 звеньев

	$\operatorname{tg}\alpha$	α	S_1	S_2	S_3
1	0.667	0.588	-14.422	-16.971	16.971
2	1.400	0.951	17.205	14.142	10.000
3	0.577	0.524	-14.641	-17.932	-14.641
4	2.304	1.161	-8.053	9.862	7.602
5	0.888	0.726	-26.000	-30.116	22.517
6	0.732	0.632	2.000	1.239	0.732
7	0.866	0.714	-32.000	-36.661	27.713
8	0.433	0.409	4.619	2.517	2.309
9	0.836	0.696	-27.321	19.319	-21.298
10	0.768	0.655	-20.000	-12.609	7.679
11	1.323	0.923	-11.547	-16.581	-13.226
12	1.800	1.064	-51.478	-35.355	-35.355
13	3.732	1.309	-0.732	-0.897	2.449
14	1.750	1.052	80.623	56.569	40.000
15	0.874	0.718	10.566	-13.909	-17.035
16	0.577	0.524	-5.774	5.774	-2.887
17	2.136	1.133	-40.853	20.000	-17.321
18	0.433	0.409	12.000	26.153	10.392
19	2.165	1.138	10.000	9.539	-8.660
20	0.613	0.550	-36.359	43.841	31.000
21	0.132	0.131	20.000	10.087	1.321
22	6.000	1.406	-6.083	1.414	1.000
23	1.427	0.959	9.517	-11.655	14.359
24	1.777	1.058	20.394	-11.547	-5.774
25	0.468	0.438	-20.000	11.041	4.679
26	0.981	0.776	34.641	-20.000	24.269
27	1.868	1.079	26.861	14.641	17.932
28	0.866	0.714	23.094	15.275	-11.547
29	0.385	0.367	-30.000	-27.839	25.981
30	3.000	1.249	-7.906	10.607	10.607