

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. 4

$P=31$ кН, $Q=80$ кН.

Задача 2.2. 4

$P=12$ кН, $Q=10$ кН.

Задача 2.3. 4

$P=2$ кН, $Q=1$ кН.

Задача 2.4. 4

$P=3$ кН, $Q=1$ кН.

Задача 2.5. 4

$P=22$ кН, $Q=20$ кН.

Задача 2.6. 4

$P=17$ кН, $Q=30$ кН.

Задача 2.7. 4

$P=9$ кН, $Q=10$ кН.

Задача 2.8. 4

$P=19$ кН, $Q=20$ кН.

Задача 2.9. 4

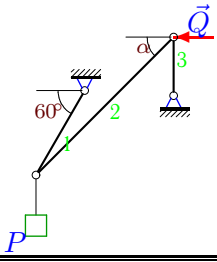
$P=14$ кН, $Q=10$ кН.

Задача 2.10. 4

$P=14$ кН, $Q=10$ кН.

Задача 2.11.

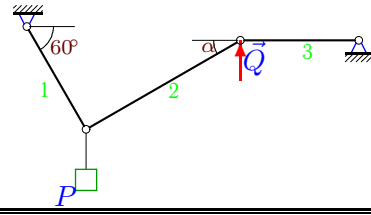
4



$P=24$ кН, $Q=30$ кН.

Задача 2.12.

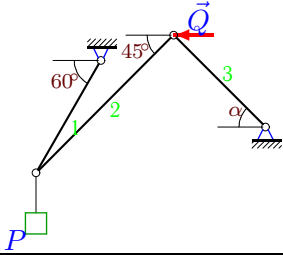
4



$P=14$ кН, $Q=1$ кН.

Задача 2.13.

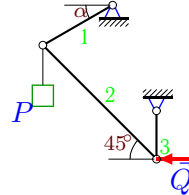
4



$P=17$ кН, $Q=50$ кН.

Задача 2.14.

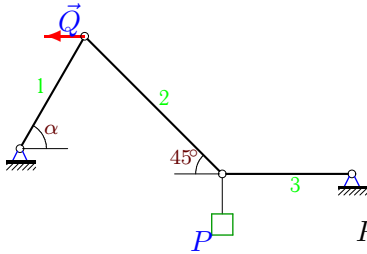
4



$P=11$ кН, $Q=10$ кН.

Задача 2.15.

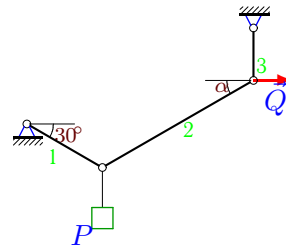
4



$P=18$ кН, $Q=30$ кН.

Задача 2.16.

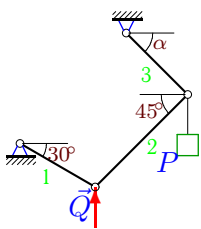
4



$P=30$ кН, $Q=30$ кН.

Задача 2.17.

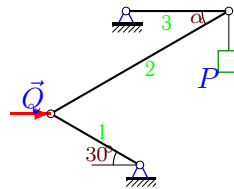
4



$P=17$ кН, $Q=10$ кН.

Задача 2.18.

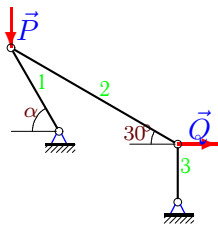
4



$P=10$ кН, $Q=30$ кН.

Задача 2.19.

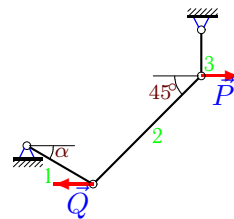
4



$P=31$ кН, $Q=30$ кН.

Задача 2.20.

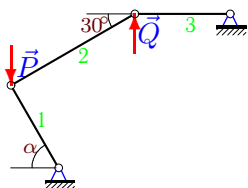
4



$P=15$ кН, $Q=40$ кН.

Задача 2.21.

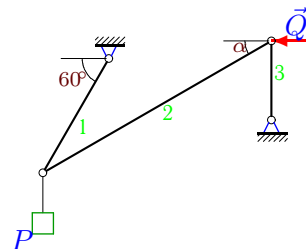
4



$P=25$ кН, $Q=10$ кН.

Задача 2.22.

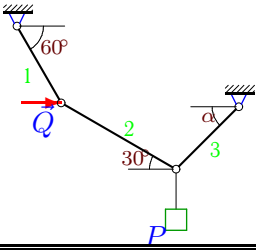
4



$P=22$ кН, $Q=20$ кН.

Задача 2.23.

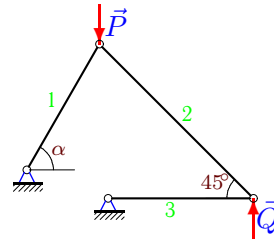
4



$P=5 \text{ кН}, Q=1 \text{ кН}.$

Задача 2.24.

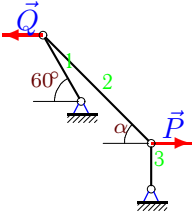
4



$P=31 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.25.

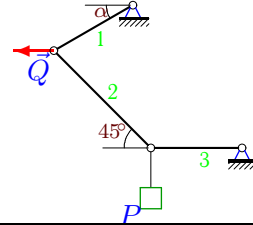
4



$P=15 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.26.

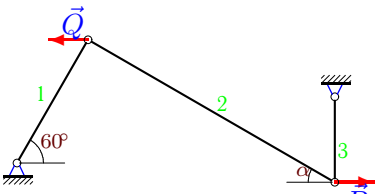
4



$P=24 \text{ кН}, Q=70 \text{ кН}.$

Задача 2.27.

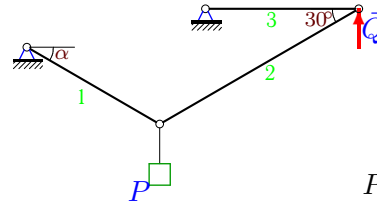
4



$P=22 \text{ кН}, Q=30 \text{ кН}.$

Задача 2.28.

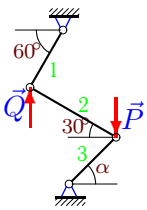
4



$P=29 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.29.

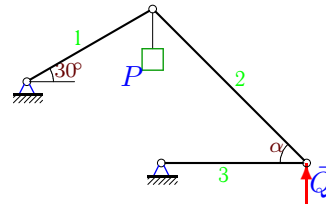
4



$P=18 \text{ кН}, Q=30 \text{ кН}.$

Задача 2.30.

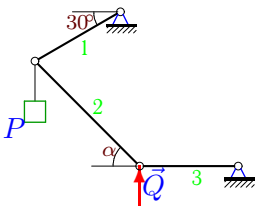
4



$P=21 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.31.

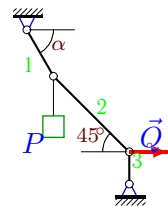
4



$P=19 \text{ кН}, Q=10 \text{ кН}.$

Задача 2.32.

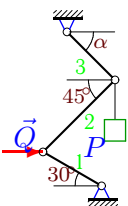
4



$P=13 \text{ кН}, Q=20 \text{ кН}.$

Задача 2.33.

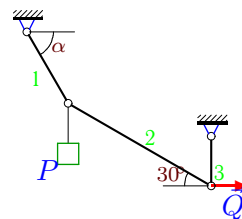
4



$P=26 \text{ кН}, Q=40 \text{ кН}.$

Задача 2.34.

4



$P=6 \text{ кН}, Q=10 \text{ кН}.$

Равновесие цепи из 3 звеньев

	$\operatorname{tg}\alpha$	α	S_1	S_2	S_3
1	1.178	0.867	62.000	-40.657	-26.306
2	1.400	0.951	-8.602	7.071	7.071
3	2.577	1.201	-1.753	0.732	0.518
4	7.196	1.433	0.732	0.518	-2.659
5	1.522	0.990	-19.053	-11.000	17.349
6	0.755	0.647	-26.000	28.213	-22.517
7	0.323	0.312	-11.547	10.508	-3.226
8	0.900	0.733	13.454	-14.142	14.142
9	0.722	0.625	27.713	-17.088	13.856
10	0.400	0.381	10.770	14.142	-10.000
11	0.932	0.750	60.000	-41.010	27.962
12	0.133	0.132	15.011	7.572	7.506
13	0.867	0.714	46.445	-32.841	35.445
14	0.100	0.100	10.050	-14.142	10.000
15	1.500	0.983	-21.633	25.456	18.000
16	0.423	0.400	34.641	32.569	12.679
17	1.681	1.034	-7.321	-8.966	12.403
18	0.789	0.668	-20.000	-16.148	12.679
19	1.611	1.015	-56.876	34.641	17.321
20	0.600	0.540	-29.155	21.213	15.000
21	0.866	0.714	-22.913	20.000	17.321
22	0.632	0.564	40.000	-23.660	12.641
23	3.911	1.320	-1.000	-1.732	-6.055
24	2.100	1.126	-23.259	-14.142	10.000
25	0.577	0.524	-10.000	17.321	8.660
26	0.522	0.481	51.884	33.941	24.000
27	0.630	0.562	-16.000	26.000	-13.856
28	1.097	0.832	25.710	20.000	-17.321
29	0.808	0.680	-25.981	15.000	-16.703
30	0.525	0.483	-22.000	-21.517	19.053
31	0.642	0.570	18.000	-18.520	-15.588
32	1.650	1.026	38.588	28.284	20.000
33	0.776	0.660	-29.282	-20.706	18.531
34	1.177	0.867	15.447	11.547	-5.774