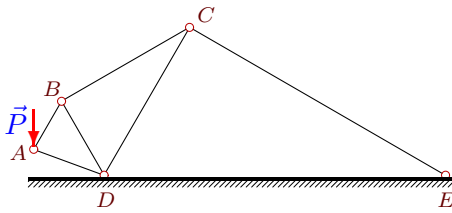


Плоская конструкция из 6 стержней

Курсанов М.Н. **Решebник. Теоретическая механика**/Под ред. А. И. Кириллова.—
М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.14.)

Задача S-1.1.

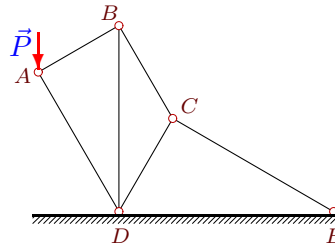
Щербинина А.К.



$P=30$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=40^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=30^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.2.

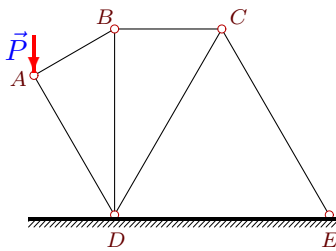
Финогенова Е.М.



$P=11$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=30^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.3.

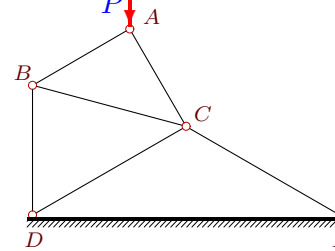
Гурьева Т.В.



$P=31$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=30^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=60^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=60^\circ$.

Задача S-1.4.

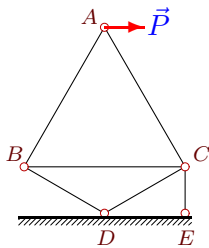
Пузин М. О.



$P=5$ кН,
 $\angle ACB=45^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.5.

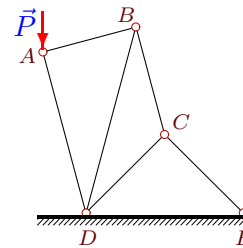
Воробьева Д.



$P=9$ кН,
 $\angle ACB=60^\circ$,
 $\angle ABC=60^\circ$,
 $\angle BDC=120^\circ$,
 $\angle BCD=30^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=90^\circ$.

Задача S-1.6.

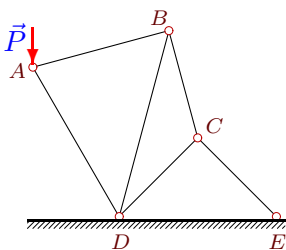
Терлецкий А.С.



$P=6$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=30^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=45^\circ$.

Задача S-1.7.

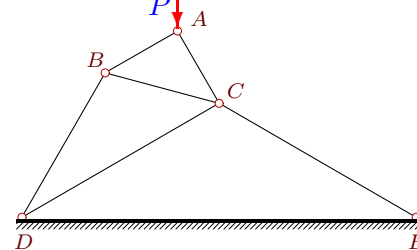
Фоломкин М.А.



$P=5$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=45^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=45^\circ$.

Задача S-1.8.

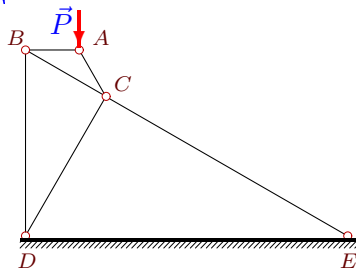
Арчаков А.Д.



$P=20$ кН,
 $\angle ACB=45^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.9.

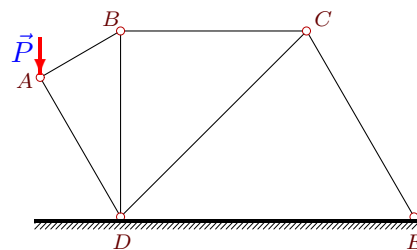
Овчинников А. Д.



$P=20$ кН,
 $\angle ACB=30^\circ$,
 $\angle ABC=30^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

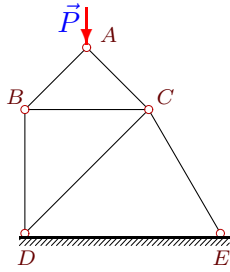
Задача S-1.10.

Пономарева А.



$P=19$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=30^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=60^\circ$.

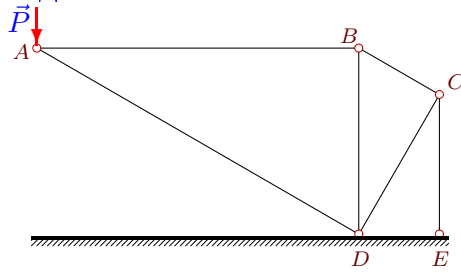
Задача S-1.11.



Рассолов А.

$P=4$ кН,
 $\angle ACB=45^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=60^\circ$.

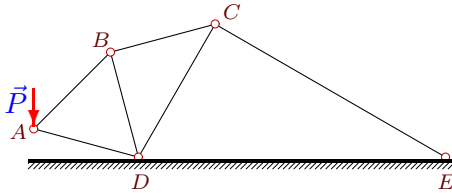
Задача S-1.12.



Ковальчук В

$P=30$ кН,
 $\angle ABD=90^\circ$,
 $\angle ADB=60^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=90^\circ$.

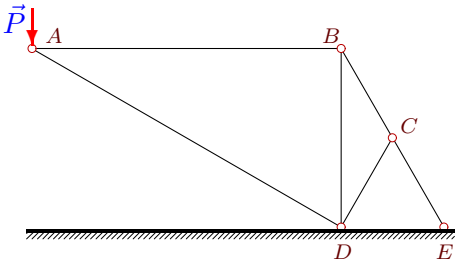
Задача S-1.13.



Шаталов А. В.

$P=28$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=60^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

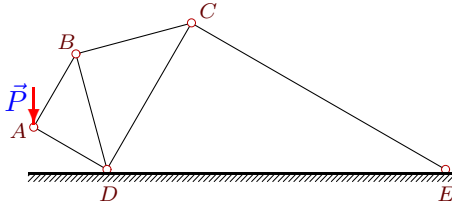
Задача S-1.14.



Павлова Е. А.

$P=9$ кН,
 $\angle ABD=90^\circ$,
 $\angle ADB=60^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=60^\circ$.

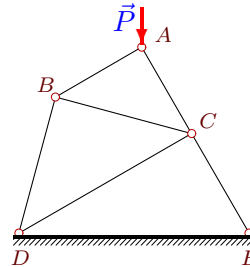
Задача S-1.15.



Сохина Н. М.

$P=5$ кН,
 $\angle ABD=45^\circ$,
 $\angle ADB=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

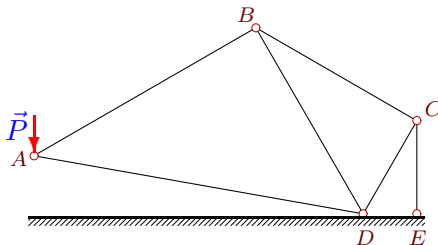
Задача S-1.16.



Софроницкий А. П.

$P=4$ кН,
 $\angle ACB=45^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=60^\circ$.

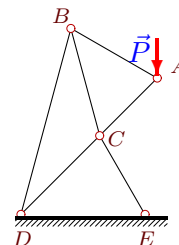
Задача S-1.17.



Плетнева Е. А.

$P=30$ кН,
 $\angle ABD=90^\circ$,
 $\angle ADB=50^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=90^\circ$.

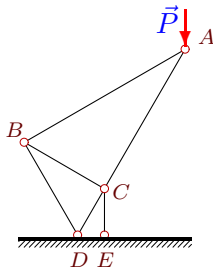
Задача S-1.18.



Швидков Д. М.

$P=2$ кН,
 $\angle ACB=60^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=60^\circ$.

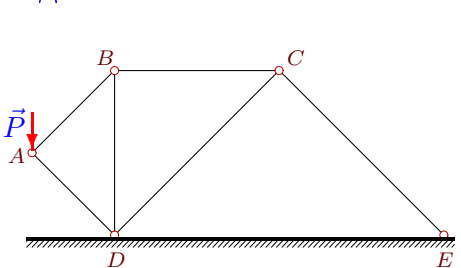
Задача S-1.19.



Болтунова В. О.

$P=16$ кН,
 $\angle ACB=90^\circ$,
 $\angle ABC=60^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=90^\circ$.

Задача S-1.20.

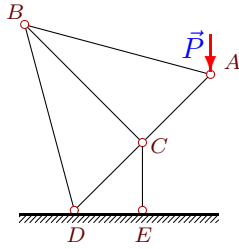


Косенок Д. А.

$P=25$ кН,
 $\angle ABD=45^\circ$,
 $\angle ADB=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=45^\circ$.

Задача S-1.21.

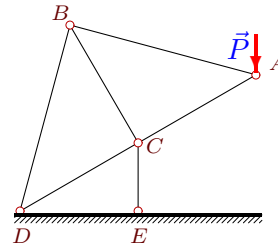
Зыков А.



$P=26$ кН,
 $\angle ACB=90^\circ$,
 $\angle ABC=30^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=90^\circ$.

Задача S-1.22.

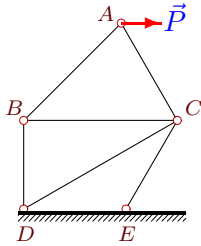
Гарт Е.А.



$P=12$ кН,
 $\angle ACB=90^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=90^\circ$.

Задача S-1.23.

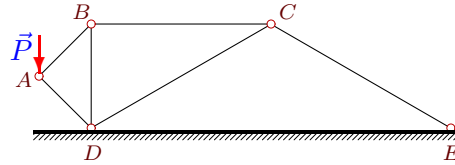
Панфилов К.



$P=31$ кН,
 $\angle ACB=60^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=30^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=120^\circ$.

Задача S-1.24.

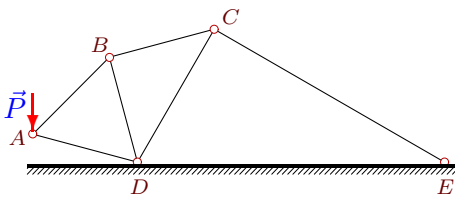
Умрихин А.Ю



$P=7$ кН,
 $\angle ABD=45^\circ$,
 $\angle ADB=45^\circ$,
 $\angle BDC=60^\circ$,
 $\angle BCD=30^\circ$,
 $\angle CDE=30^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.25.

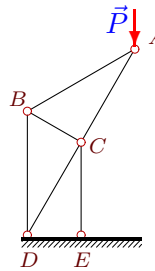
Сажко П. А.



$P=16$ кН,
 $\angle ABD=60^\circ$,
 $\angle ADB=60^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

Задача S-1.26.

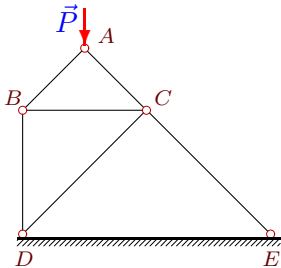
Бакленев Н.



$P=19$ кН,
 $\angle ACB=90^\circ$,
 $\angle ABC=60^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=90^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=90^\circ$.

Задача S-1.27.

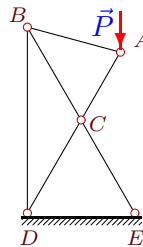
Васильева А. А.



$P=32$ кН,
 $\angle ACB=45^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=45^\circ$.

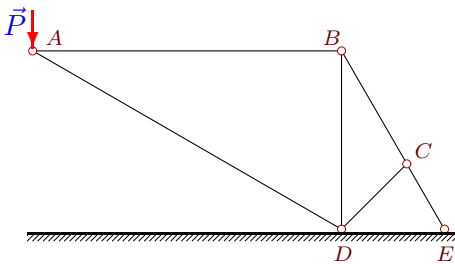
Задача S-1.28.

$P=24$ кН,
 $\angle ACB=60^\circ$,
 $\angle ABC=45^\circ$,
 $\angle BDC=30^\circ$,
 $\angle BCD=120^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=60^\circ$.



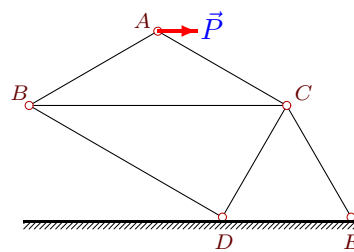
Задача S-1.29.

$P=13$ кН,
 $\angle ABD=90^\circ$,
 $\angle ADB=60^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=105^\circ$,
 $\angle CDE=45^\circ$,
 $\angle CED=60^\circ$.

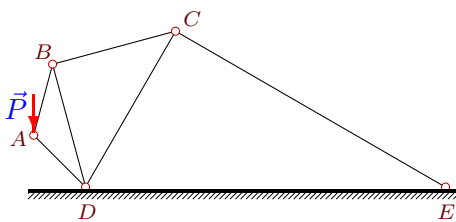


Задача S-1.30.

$P=19$ кН,
 $\angle ACB=30^\circ$,
 $\angle ABC=30^\circ$,
 $\angle BDC=90^\circ$,
 $\angle BCD=60^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=60^\circ$.



Задача S-1.31.



$P=13$ кН,
 $\angle ABD=30^\circ$,
 $\angle ADB=30^\circ$,
 $\angle BDC=45^\circ$,
 $\angle BCD=45^\circ$,
 $\angle CDE=60^\circ$,
 $\angle CED=30^\circ$.

S-1

Ответы.

Плоская конструкция из 6 стержней

05-Oct-17

	S_{AB}	S_{AC}	S_{AD}	S_{BC}	S_{BD}	S_{CD}	S_{CE}	
1	28.626	—	-15.231	24.791	-14.313	-21.469	12.395	Щербинина А.К.
2	5.500	—	-9.526	9.526	-11.000	4.763	8.250	Финогенова Е.М.
3	15.500	—	-26.847	13.423	-7.750	-13.423	13.423	Гурьева Т.В.
4	-2.500	-4.330	—	2.241	-1.830	-3.170	-3.170	Пузин М. О.
5	9.000	-9.000	—	-18.000	15.588	25.981	-20.785	Воробьева Д.
6	1.553	—	-5.796	2.690	-3.106	1.345	2.329	Терлецкий А.С.
7	2.588	—	-5.000	4.483	-5.176	2.241	3.882	Фоломкин М.А.
8	-10.000	-17.321	—	5.176	-7.321	-11.547	-15.774	Арчаков А.Д.
9	-11.547	-23.094	—	13.333	-6.667	-11.547	-6.667	Овчинников А. Д.
10	9.500	—	-16.454	8.227	-4.750	-7.376	6.023	Пономарева А.
11	-2.828	-2.828	—	2.000	-2.000	-1.035	-1.464	Расолов А.
12	51.962	—	-60.000	60.000	-30.000	-103.923	120.000	Ковальчук В
13	31.230	—	-22.862	27.046	-15.615	-19.124	19.124	Шаталов А. В.
14	15.588	—	-18.000	31.177	-27.000	-0.000	31.177	Павлова Е.А.
15	4.330	—	-2.500	3.062	-3.062	-2.165	2.165	Сохина Н. М.
16	-2.000	-3.464	—	1.414	-1.414	-1.000	-2.464	Софроницкий А.П.
17	45.963	—	-40.419	91.925	-79.610	-159.219	183.851	Плетнева Е. А.
18	1.464	-1.793	—	-2.828	2.071	-2.551	-2.536	Швыдков Д. М.
19	16.000	-27.713	—	-32.000	27.713	27.713	-64.000	Болтунова В.О.
20	17.678	—	-17.678	12.500	-12.500	-8.839	8.839	Косенок Д.А.
21	21.229	-28.999	—	-36.770	21.229	7.770	-52.000	Зыков А.
22	14.697	-16.392	—	-20.785	14.697	-4.392	-24.000	Гарт Е.А.
23	27.794	-22.694	—	-19.653	19.653	73.347	-65.040	Панфилов К.
24	4.950	—	-4.950	3.500	-3.500	-2.021	2.021	Умрихин А.Ю
25	17.846	—	-13.064	15.455	-8.923	-10.928	10.928	Сапко П. А.
26	19.000	-32.909	—	-19.000	19.000	-0.000	-38.000	Бакленев Н.
27	-22.627	-22.627	—	16.000	-16.000	-11.314	-11.314	Васильева А. А.
28	12.423	-24.000	—	-24.000	17.569	-24.000	-24.000	
29	22.517	—	-26.000	45.033	-39.000	-0.000	45.033	
30	10.970	-10.970	—	-19.000	10.970	25.333	-31.667	
31	10.614	—	-3.885	5.307	-9.192	-3.753	3.753	

S-1 файл 1sdd-AnsA