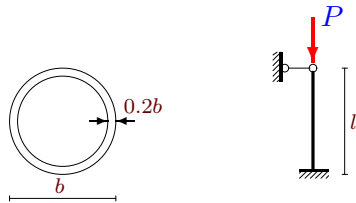


Подбор сечения продольно сжатого стержня

Прямолинейный стержень длиной l сжимается продольной силой P . Подобрать размер b сечения стержня пользуясь таблицей коэффициентов φ снижения допускаемых напряжений $[\sigma]$. Принять точность вычисления φ равной 5%.

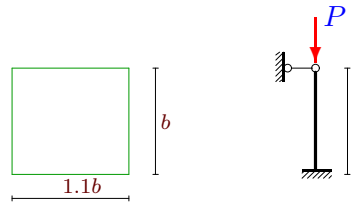
Задача 32.1.

Д16Т, $[\sigma] = 100$ МПа, $l = 1.95$ м, $P = 180$ кН.



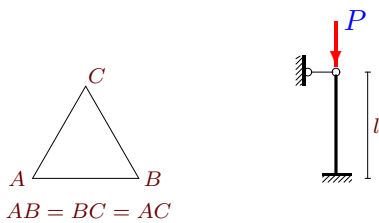
Задача 32.2.

Чугун, $[\sigma] = 130$ МПа, $l = 1.95$ м, $P = 550$ кН.



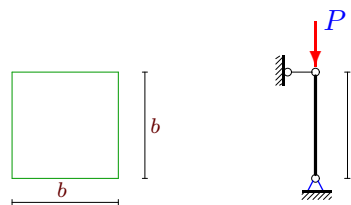
Задача 32.3.

Сталь 3, $[\sigma] = 160$ МПа, $l = 3.2$ м, $P = 90$ кН.



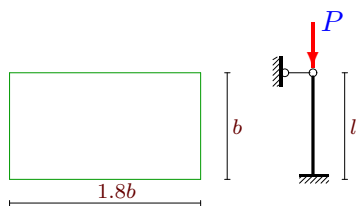
Задача 32.4.

Дерево, $[\sigma] = 11$ МПа, $l = 2.5$ м, $P = 20$ кН.



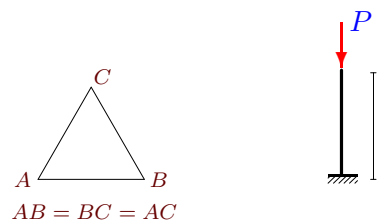
Задача 32.5.

Д16Т, $[\sigma] = 100$ МПа, $l = 2$ м, $P = 690$ кН.



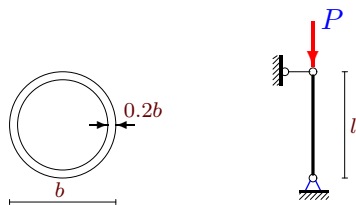
Задача 32.6.

Д16Т, $[\sigma] = 100$ МПа, $l = 0.7$ м, $P = 130$ кН.



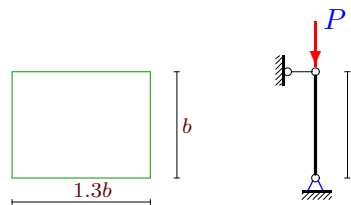
Задача 32.7.

Сталь 3, $[\sigma] = 160$ МПа, $l = 2.8$ м, $P = 370$ кН.



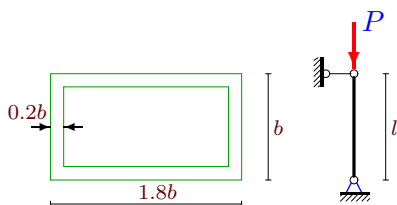
Задача 32.8.

Д16Т, $[\sigma] = 100$ МПа, $l = 1.15$ м, $P = 410$ кН.



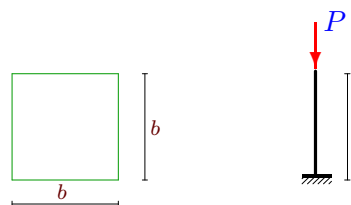
Задача 32.9.

Дерево, $[\sigma] = 11$ МПа, $l = 2.4$ м, $P = 30$ кН.



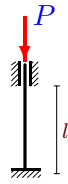
Задача 32.10.

Сталь 5, $[\sigma] = 240$ МПа, $l = 1.3$ м, $P = 930$ кН.

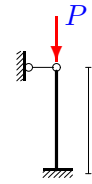
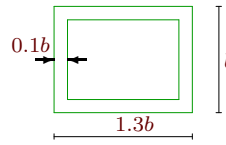


Задача 32.11.

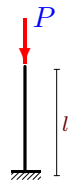
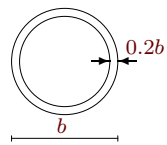
4

Сталь 5, $[\sigma] = 240$ МПа, $l = 5.5$ м, $P = 390$ кН.**Задача 32.12.**

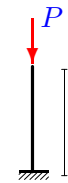
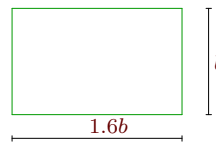
4

Д16Т, $[\sigma] = 100$ МПа, $l = 1.8$ м, $P = 170$ кН.**Задача 32.13.**

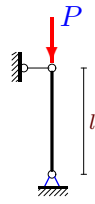
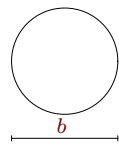
4

Сталь 5, $[\sigma] = 240$ МПа, $l = 1.4$ м, $P = 530$ кН.**Задача 32.14.**

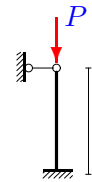
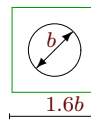
4

Д16Т, $[\sigma] = 100$ МПа, $l = 0.7$ м, $P = 770$ кН.**Задача 32.15.**

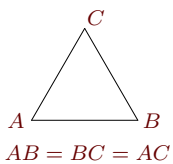
4

Дерево, $[\sigma] = 11$ МПа, $l = 2.5$ м, $P = 10$ кН.**Задача 32.16.**

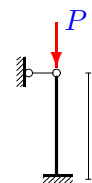
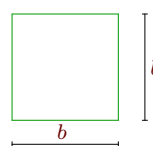
4

Сталь 3, $[\sigma] = 160$ МПа, $l = 3.9$ м, $P = 990$ кН.**Задача 32.17.**

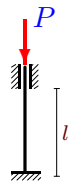
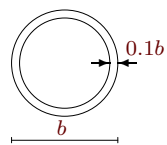
4

Сталь 3, $[\sigma] = 160$ МПа, $l = 1.2$ м, $P = 160$ кН.**Задача 32.18.**

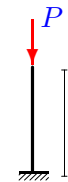
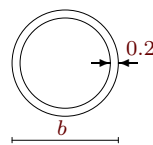
4

Чугун, $[\sigma] = 130$ МПа, $l = 1.5$ м, $P = 300$ кН.**Задача 32.19.**

4

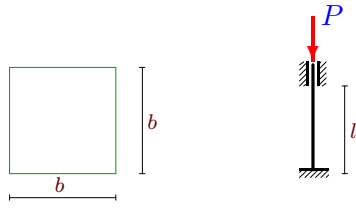
Д16Т, $[\sigma] = 100$ МПа, $l = 2.35$ м, $P = 70$ кН.**Задача 32.20.**

4

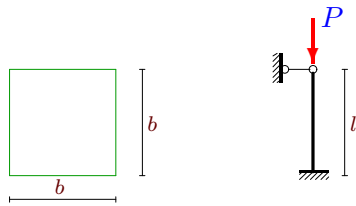
Д16Т, $[\sigma] = 100$ МПа, $l = 0.55$ м, $P = 170$ кН.

Задача 32.21.

4

Д16Т, $[\sigma] = 100$ МПа, $l = 2.25$ м, $P = 170$ кН.**Задача 32.23.**

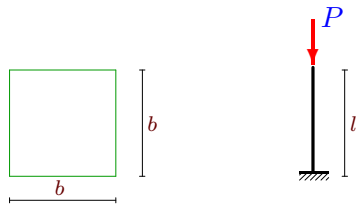
4

Д16Т, $[\sigma] = 100$ МПа, $l = 1.9$ м, $P = 360$ кН.**Задача 32.25.**

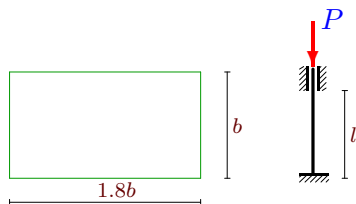
4

Сталь 3, $[\sigma] = 160$ МПа, $l = 3.8$ м, $P = 520$ кН.**Задача 32.27.**

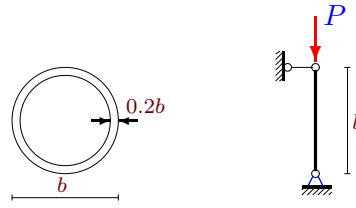
4

Сталь 5, $[\sigma] = 240$ МПа, $l = 1.2$ м, $P = 1000$ кН.**Задача 32.29.**

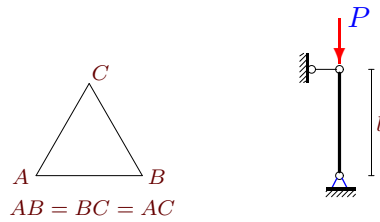
4

Сталь 3, $[\sigma] = 160$ МПа, $l = 5.2$ м, $P = 640$ кН.**Задача 32.22.**

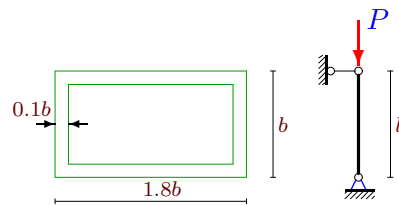
4

Чугун, $[\sigma] = 130$ МПа, $l = 1.25$ м, $P = 240$ кН.**Задача 32.24.**

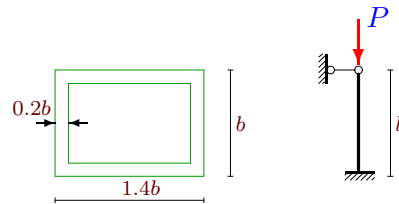
4

Чугун, $[\sigma] = 130$ МПа, $l = 1.15$ м, $P = 100$ кН.**Задача 32.26.**

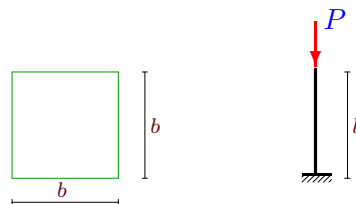
4

Дерево, $[\sigma] = 11$ МПа, $l = 2.7$ м, $P = 30$ кН.**Задача 32.28.**

4

Чугун, $[\sigma] = 130$ МПа, $l = 1.8$ м, $P = 390$ кН.**Задача 32.30.**

4

Д16Т, $[\sigma] = 100$ МПа, $l = 0.65$ м, $P = 590$ кН.

Подбор сечения продольно сжатого стержня

№	b	λ	μ
1	8.399	55.744	0.7
2	8.661	54.597	0.7
3	6.763	162.273	0.7
4	8.162	106.109	1.0
5	8.694	55.785	0.7
6	9.501	72.192	2.0
7	9.094	105.610	1.0
8	7.602	52.405	1.0
9	7.981	83.406	1.0
10	8.875	101.479	2.0
11	7.795	85.125	0.5
12	7.773	42.397	0.7
13	9.455	101.571	2.0
14	9.346	51.892	2.0
15	7.825	127.797	1.0
16	6.723	76.728	0.7
17	8.179	143.749	2.0
18	6.690	54.371	0.7
19	6.835	53.699	0.5
20	7.649	49.328	2.0
21	6.252	62.332	0.5
22	8.220	52.158	1.0
23	8.363	55.094	0.7
24	7.604	74.095	1.0
25	8.010	76.389	0.7
26	9.504	71.659	1.0
27	8.743	95.096	2.0
28	7.783	46.099	0.7
29	7.216	124.809	0.5
30	9.745	46.214	2.0