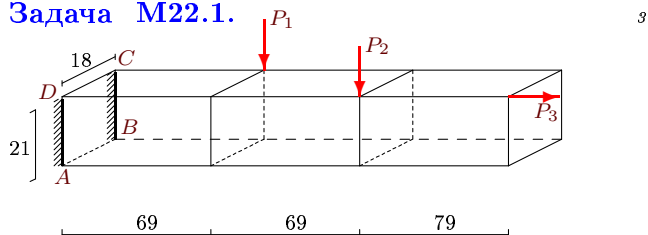


Сложное сопротивление призматического стержня

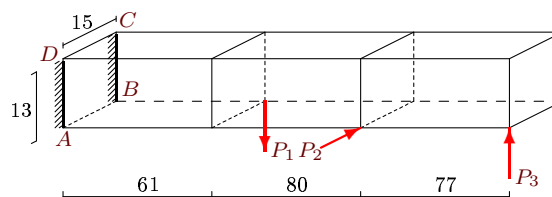
На консольно закрепленный брус действуют три силы, параллельные его ребрам. Найти нормальные напряжения в точках A , B , C и D заделки бруса и угол осевого поворота конечного сечения бруса. Размеры даны в сантиметрах. Модуль сдвига $G = 0.8 \cdot 10^5$ МПа.

Задача М22.1.



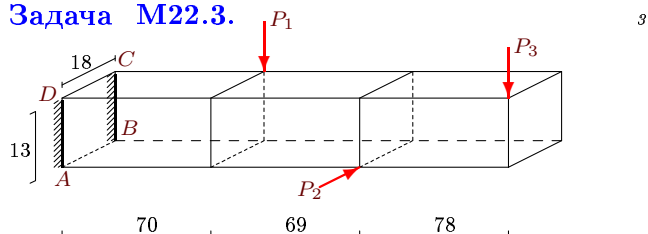
$$P_1 = 30 \text{ кН}, P_2 = 40 \text{ кН}, P_3 = 40 \text{ кН}.$$

Задача М22.2.



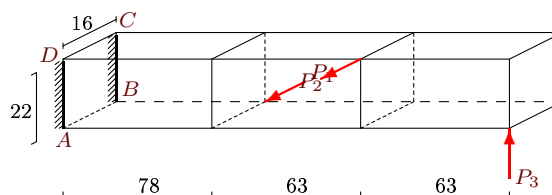
$$P_1 = 40 \text{ кН}, P_2 = 35 \text{ кН}, P_3 = 35 \text{ кН}.$$

Задача М22.3.



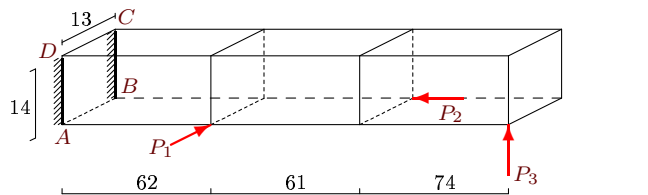
$$P_1 = 30 \text{ кН}, P_2 = 40 \text{ кН}, P_3 = 30 \text{ кН}.$$

Задача М22.4.



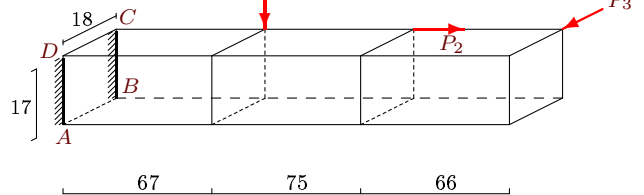
$$P_1 = 25 \text{ кН}, P_2 = 25 \text{ кН}, P_3 = 25 \text{ кН}.$$

Задача М22.5.



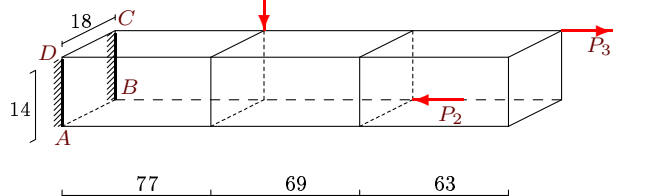
$$P_1 = 20 \text{ кН}, P_2 = 35 \text{ кН}, P_3 = 40 \text{ кН}.$$

Задача М22.6.



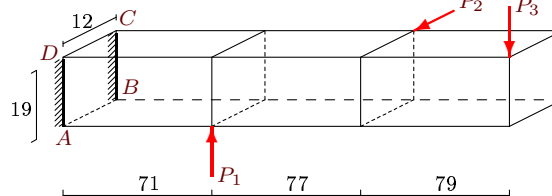
$$P_1 = 35 \text{ кН}, P_2 = 25 \text{ кН}, P_3 = 30 \text{ кН}.$$

Задача М22.7.



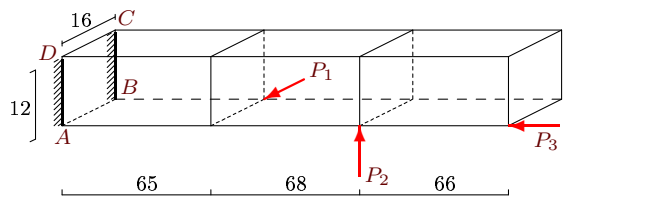
$$P_1 = 30 \text{ кН}, P_2 = 25 \text{ кН}, P_3 = 25 \text{ кН}.$$

Задача М22.8.



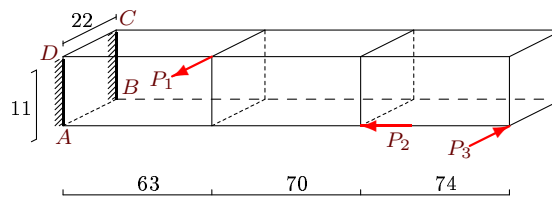
$$P_1 = 35 \text{ кН}, P_2 = 40 \text{ кН}, P_3 = 40 \text{ кН}.$$

Задача М22.9.



$$P_1 = 30 \text{ кН}, P_2 = 25 \text{ кН}, P_3 = 20 \text{ кН}.$$

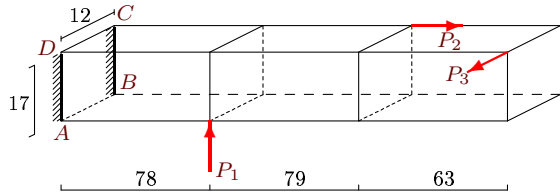
Задача М22.10.



$$P_1 = 30 \text{ кН}, P_2 = 35 \text{ кН}, P_3 = 30 \text{ кН}.$$

Задача M22.11.

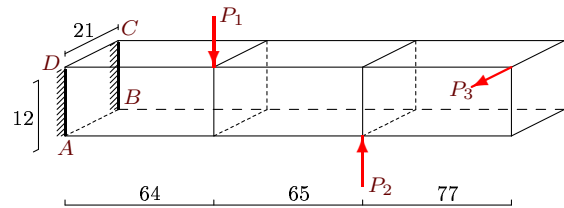
3



$P_1 = 40\text{кН}, P_2 = 25\text{кН}, P_3 = 40\text{кН}.$

Задача M22.12.

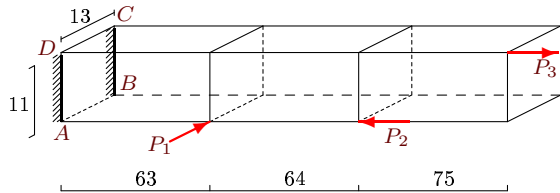
3



$P_1 = 25\text{кН}, P_2 = 35\text{кН}, P_3 = 40\text{кН}.$

Задача M22.13.

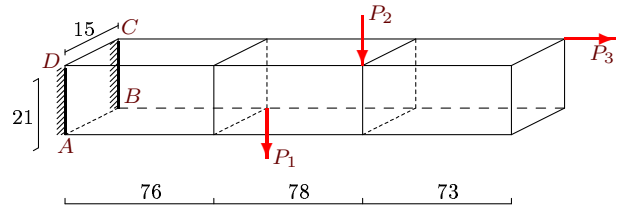
3



$P_1 = 25\text{кН}, P_2 = 35\text{кН}, P_3 = 30\text{кН}.$

Задача M22.14.

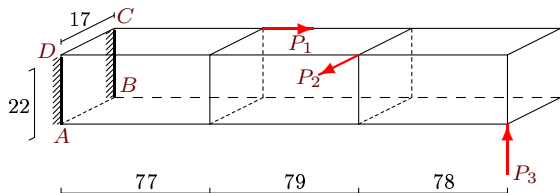
3



$P_1 = 40\text{кН}, P_2 = 35\text{кН}, P_3 = 30\text{кН}.$

Задача M22.15.

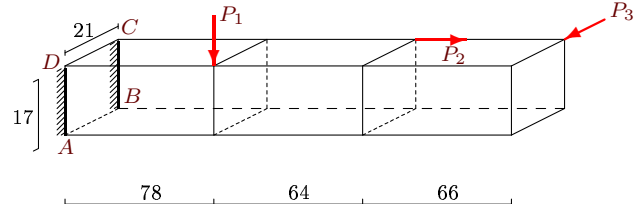
3



$P_1 = 40\text{кН}, P_2 = 40\text{кН}, P_3 = 40\text{кН}.$

Задача M22.16.

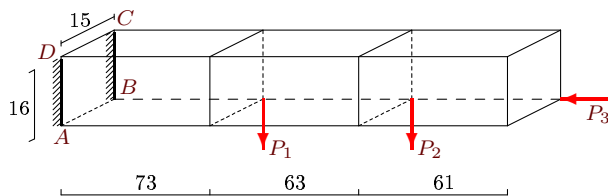
3



$P_1 = 25\text{кН}, P_2 = 25\text{кН}, P_3 = 25\text{кН}.$

Задача M22.17.

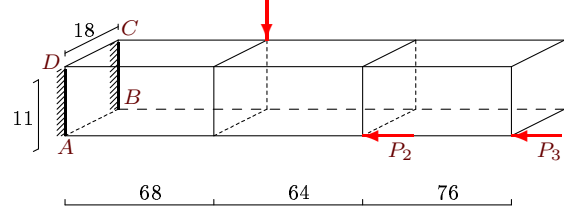
3



$P_1 = 25\text{кН}, P_2 = 20\text{кН}, P_3 = 20\text{кН}.$

Задача M22.18.

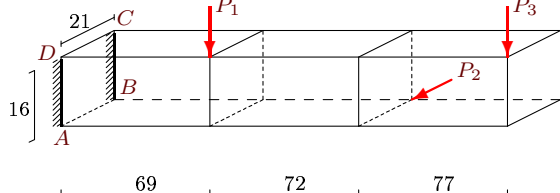
3



$P_1 = 25\text{кН}, P_2 = 35\text{кН}, P_3 = 35\text{кН}.$

Задача M22.19.

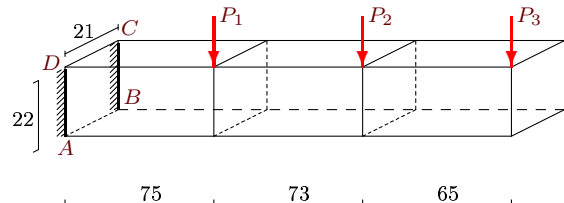
3



$P_1 = 30\text{кН}, P_2 = 35\text{кН}, P_3 = 20\text{кН}.$

Задача M22.20.

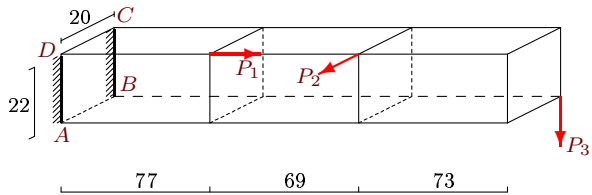
3



$P_1 = 35\text{кН}, P_2 = 25\text{кН}, P_3 = 30\text{кН}.$

Задача M22.21.

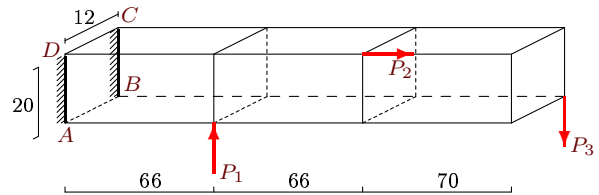
3



$P_1 = 30\text{кН}, P_2 = 35\text{кН}, P_3 = 20\text{кН}.$

Задача M22.22.

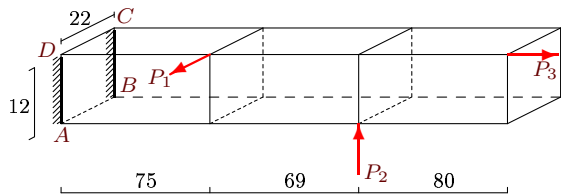
3



$P_1 = 25\text{кН}, P_2 = 30\text{кН}, P_3 = 20\text{кН}.$

Задача M22.23.

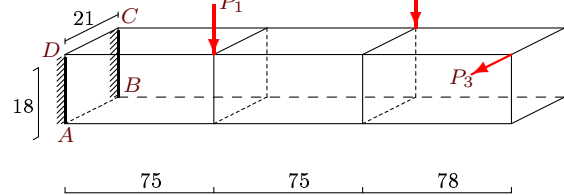
3



$P_1 = 30\text{кН}, P_2 = 40\text{кН}, P_3 = 40\text{кН}.$

Задача M22.24.

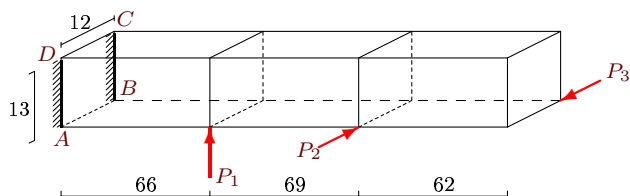
3



$P_1 = 35\text{кН}, P_2 = 40\text{кН}, P_3 = 25\text{кН}.$

Задача M22.25.

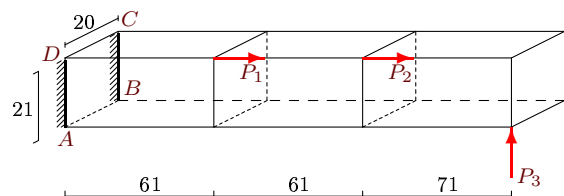
3



$P_1 = 30\text{кН}, P_2 = 20\text{кН}, P_3 = 25\text{кН}.$

Задача M22.26.

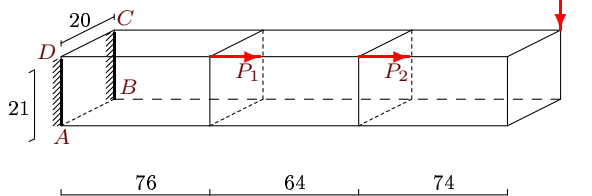
3



$P_1 = 20\text{кН}, P_2 = 30\text{кН}, P_3 = 25\text{кН}.$

Задача M22.27.

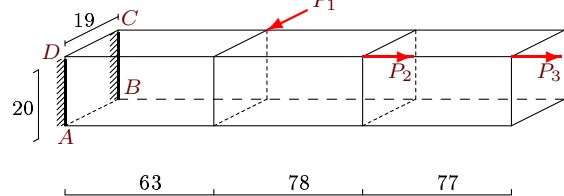
3



$P_1 = 25\text{кН}, P_2 = 35\text{кН}, P_3 = 30\text{кН}.$

Задача M22.28.

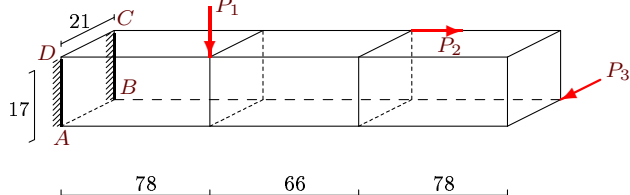
3



$P_1 = 40\text{кН}, P_2 = 35\text{кН}, P_3 = 25\text{кН}.$

Задача M22.29.

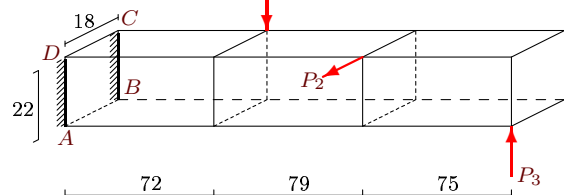
3



$P_1 = 25\text{кН}, P_2 = 40\text{кН}, P_3 = 25\text{кН}.$

Задача M22.30.

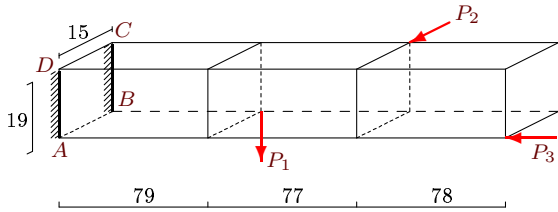
3



$P_1 = 40\text{кН}, P_2 = 35\text{кН}, P_3 = 35\text{кН}.$

Задача M22.31.

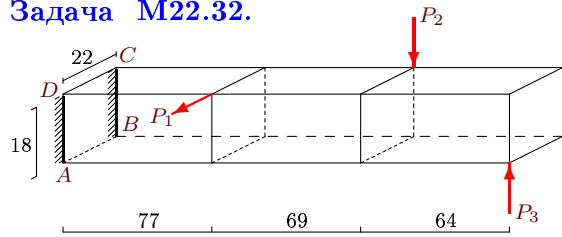
3



$P_1 = 35\text{кН}, P_2 = 40\text{кН}, P_3 = 25\text{кН}.$

Задача M22.32.

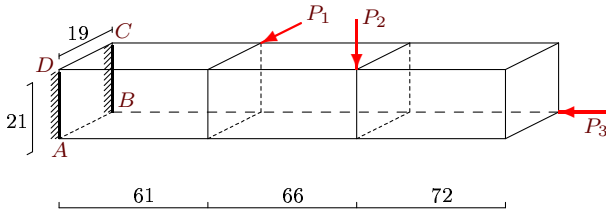
3



$P_1 = 30\text{кН}, P_2 = 25\text{кН}, P_3 = 35\text{кН}.$

Задача M22.33.

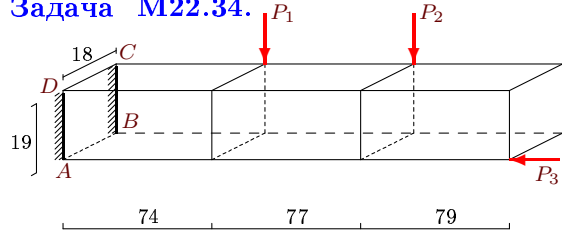
3



$P_1 = 25\text{кН}, P_2 = 30\text{кН}, P_3 = 30\text{кН}.$

Задача M22.34.

3



$P_1 = 35\text{кН}, P_2 = 40\text{кН}, P_3 = 30\text{кН}.$

M22

Ответы.

Сложное сопротивление призматического стержня 08.12.2014

№	J_x	J_z	J_k	φ	σ_A	σ_B	σ_C	σ_D
	см ⁴			рад · 10 ³	МПа			
1	13891.5	10206.0	19513.9	-0.199	-56.311	-62.661	58.428	64.777
2	2746.3	3656.3	5204.4	2.584	224.071	21.609	-224.071	-21.609
3	3295.5	6318.0	7249.1	-0.061	-90.620	-249.025	90.620	249.025
4	14197.3	7509.3	16422.9	-0.148	-18.813	97.842	18.813	-97.842
5	2972.7	2563.2	4597.1	1.629	215.080	140.650	-218.926	-144.496
6	7369.5	8262.0	13041.4	0.711	-99.106	41.744	100.740	-40.110
7	4116.0	6804.0	8516.6	0.305	-45.238	-45.238	45.238	45.238
8	6859.0	2736.0	6615.6	-2.374	-221.168	38.481	221.168	-38.481
9	2304.0	4096.0	4912.1	0.379	41.211	123.633	-43.294	-125.716
10	2440.2	9760.7	6705.6	-0.830	38.561	-50.131	-41.454	47.239
11	4913.0	2448.0	5488.4	1.277	-167.834	270.891	170.285	-268.440
12	3024.0	9261.0	7711.2	1.842	-35.587	151.261	35.587	-151.261
13	1441.9	2013.9	2785.8	0.389	35.799	-63.771	-36.498	63.072
14	11576.3	5906.3	13111.9	-0.168	-81.224	-75.510	83.129	77.415
15	15084.7	9007.2	18737.0	0.073	4.021	128.211	-1.882	-126.072
16	8597.8	13119.8	17217.8	0.470	-64.396	23.039	65.797	-21.638
17	5120.0	4500.0	8010.0	-0.105	-71.849	-76.849	70.182	75.182
18	1996.5	5346.0	4911.4	0.389	-71.579	-50.367	64.509	43.297
19	7168.0	12348.0	15085.1	-0.526	-113.728	-29.799	113.728	29.799
20	18634.0	16978.5	29794.8	-0.329	-75.059	-75.059	75.059	75.059
21	17746.7	14666.7	26752.0	-0.467	-61.308	4.283	62.671	-2.919
22	8000.0	2880.0	7153.9	-0.597	-28.625	-36.125	31.125	38.625
23	3168.0	10648.0	8287.5	0.752	87.362	124.759	-84.332	-121.729
24	10206.0	13891.5	19513.9	0.102	-119.142	-32.974	119.142	32.974
25	2197.0	1872.0	3373.3	1.396	-12.734	129.894	12.734	-129.894
26	15435.0	14000.0	24612.0	0.245	34.014	26.871	-31.633	-24.490
27	15435.0	14000.0	24612.0	-0.326	-42.245	-50.816	45.102	53.673
28	12666.7	11431.7	20136.6	-0.156	-19.363	13.047	22.521	-9.889
29	8597.8	13119.8	17217.8	0.491	-69.298	26.260	71.539	-24.019
30	15972.0	10692.0	21227.2	0.230	-9.845	79.128	9.845	-79.128
31	8573.8	5343.8	10922.6	-0.441	-124.356	56.065	122.602	-57.819
32	10692.0	15972.0	21227.2	0.117	15.236	47.054	-15.236	-47.054
33	14663.3	12003.3	21977.3	-0.297	-40.104	-20.476	38.600	18.972
34	10288.5	9234.0	16301.1	-0.238	-85.826	-80.563	84.072	78.809

М22 файл о22м3А