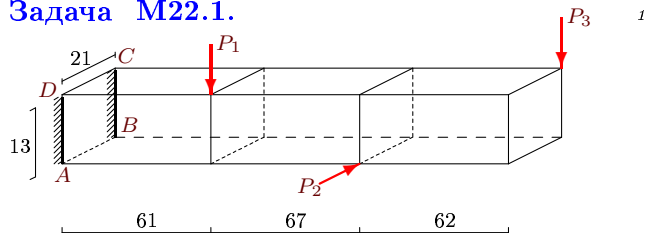


Сложное сопротивление призматического стержня

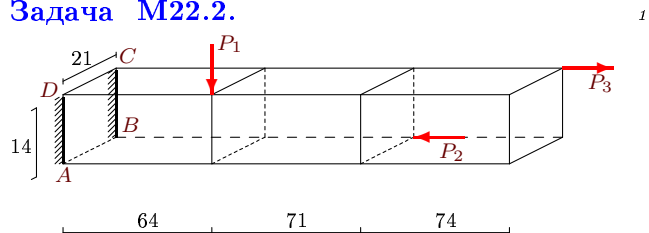
На консольно закрепленный брус действуют три силы, параллельные его ребрам. Найти нормальные напряжения в точках A , B , C и D заделки бруса и угол осевого поворота конечного сечения бруса. Размеры даны в сантиметрах. Модуль сдвига $G = 0.8 \cdot 10^5$ МПа.

Задача М22.1.



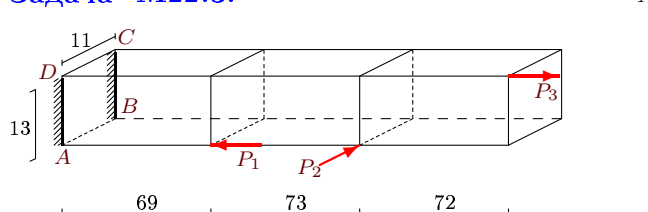
$P_1 = 25 \text{ кН}, P_2 = 20 \text{ кН}, P_3 = 35 \text{ кН}.$

Задача М22.2.



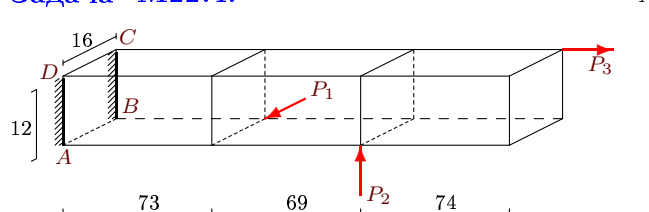
$P_1 = 30 \text{ кН}, P_2 = 35 \text{ кН}, P_3 = 20 \text{ кН}.$

Задача М22.3.



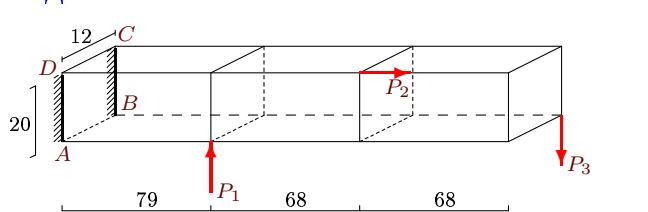
$P_1 = 35 \text{ кН}, P_2 = 30 \text{ кН}, P_3 = 30 \text{ кН}.$

Задача М22.4.



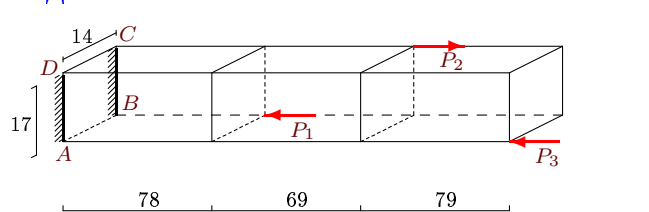
$P_1 = 30 \text{ кН}, P_2 = 35 \text{ кН}, P_3 = 25 \text{ кН}.$

Задача М22.5.



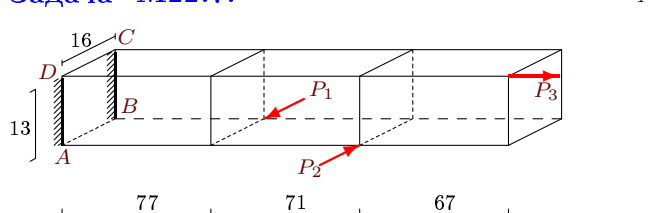
$P_1 = 30 \text{ кН}, P_2 = 30 \text{ кН}, P_3 = 40 \text{ кН}.$

Задача М22.6.



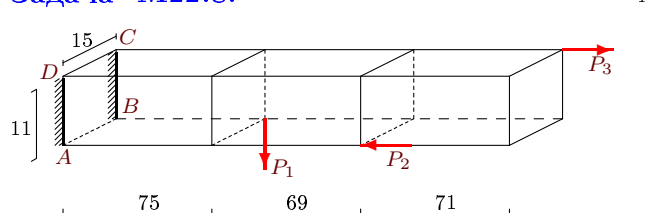
$P_1 = 30 \text{ кН}, P_2 = 40 \text{ кН}, P_3 = 30 \text{ кН}.$

Задача М22.7.



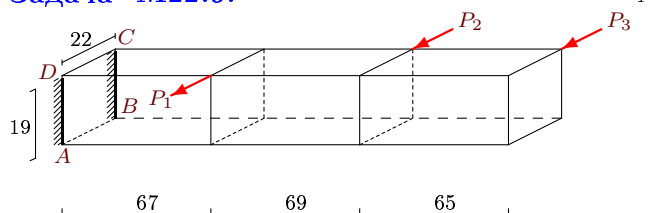
$P_1 = 30 \text{ кН}, P_2 = 25 \text{ кН}, P_3 = 20 \text{ кН}.$

Задача М22.8.



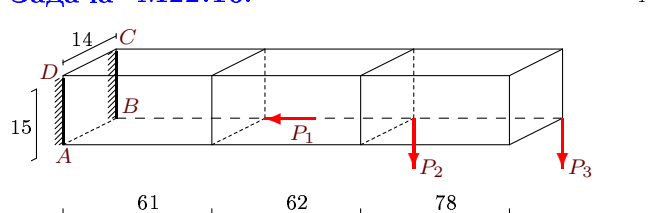
$P_1 = 30 \text{ кН}, P_2 = 30 \text{ кН}, P_3 = 30 \text{ кН}.$

Задача М22.9.



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

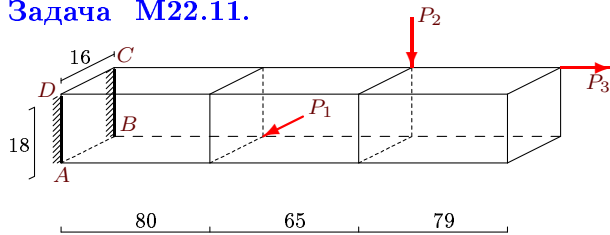
Задача М22.10.



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

Задача M22.11.

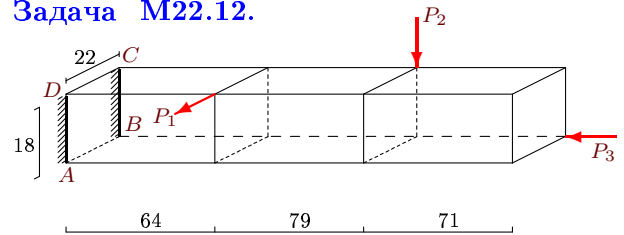
1



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

Задача M22.12.

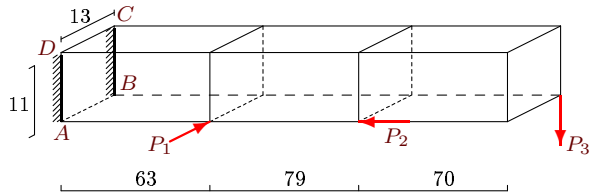
1



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

Задача M22.13.

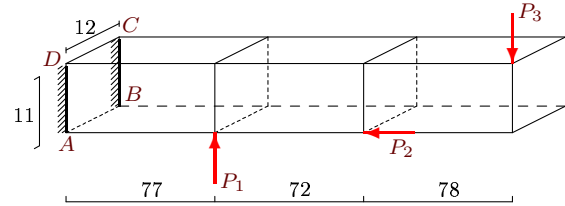
1



$P_1 = 40\text{кН}, P_2 = 30\text{кН}, P_3 = 20\text{кН}.$

Задача M22.14.

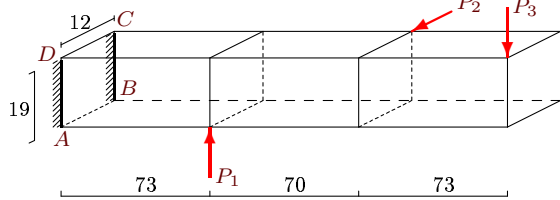
1



$P_1 = 30\text{кН}, P_2 = 40\text{кН}, P_3 = 25\text{кН}.$

Задача M22.15.

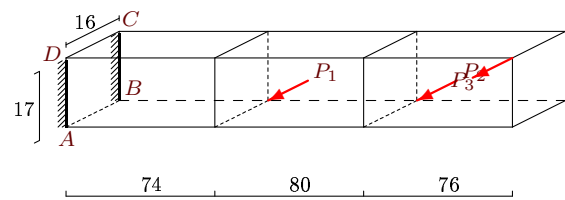
1



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

Задача M22.16.

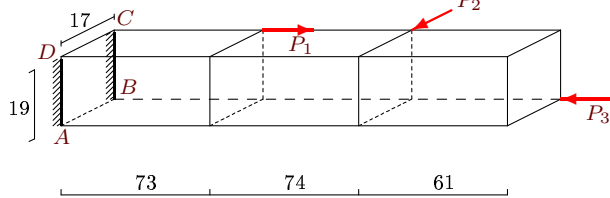
1



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

Задача M22.17.

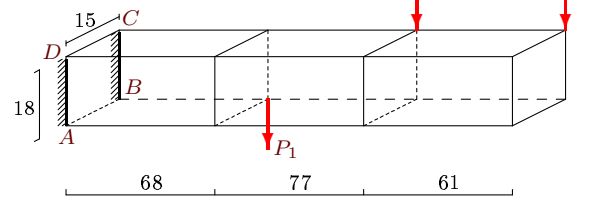
1



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

Задача M22.18.

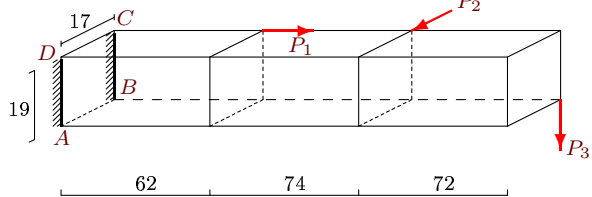
1



$P_1 = 35\text{кН}, P_2 = 20\text{кН}, P_3 = 25\text{кН}.$

Задача M22.19.

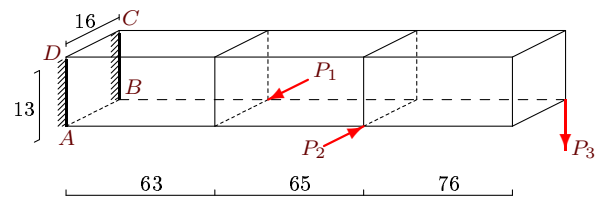
1



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

Задача M22.20.

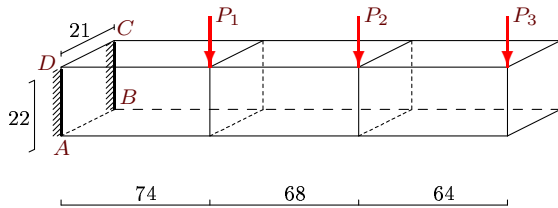
1



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

Задача M22.21.

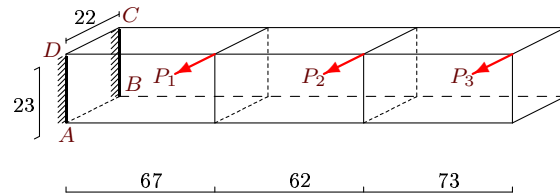
1



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

Задача M22.22.

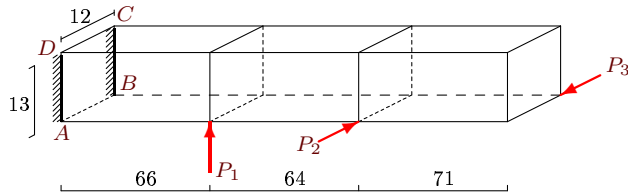
1



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

Задача M22.23.

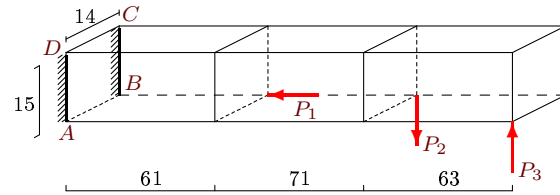
1



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

Задача M22.24.

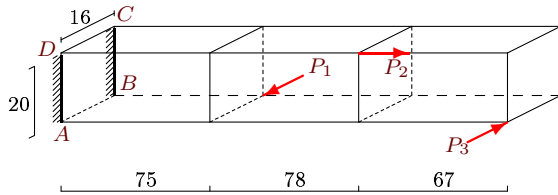
1



$P_1 = 30\text{кН}, P_2 = 25\text{кН}, P_3 = 40\text{кН}.$

Задача M22.25.

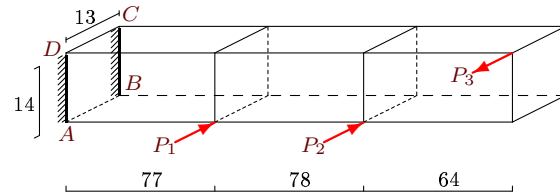
1



$P_1 = 40\text{кН}, P_2 = 25\text{кН}, P_3 = 30\text{кН}.$

Задача M22.26.

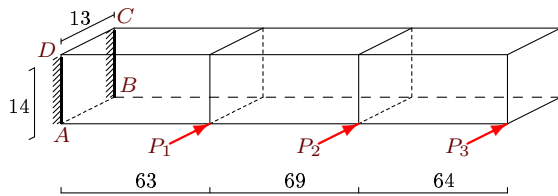
1



$P_1 = 40\text{кН}, P_2 = 25\text{кН}, P_3 = 30\text{кН}.$

Задача M22.27.

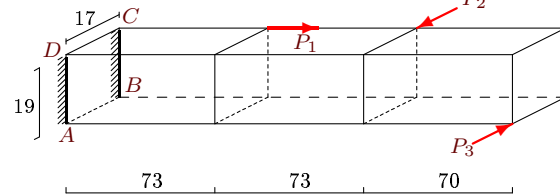
1



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

Задача M22.28.

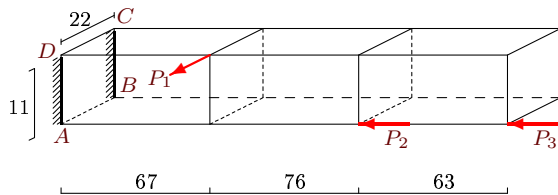
1



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

Задача M22.29.

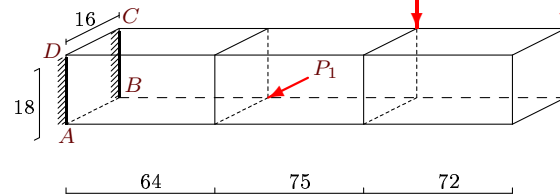
1



$P_1 = 35\text{кН}, P_2 = 25\text{кН}, P_3 = 20\text{кН}.$

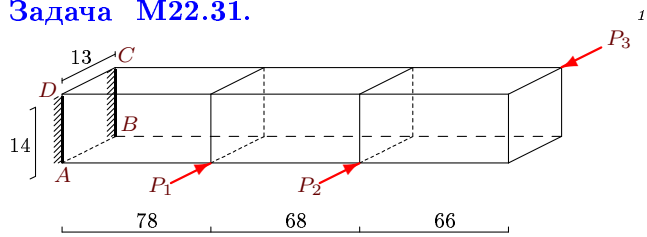
Задача M22.30.

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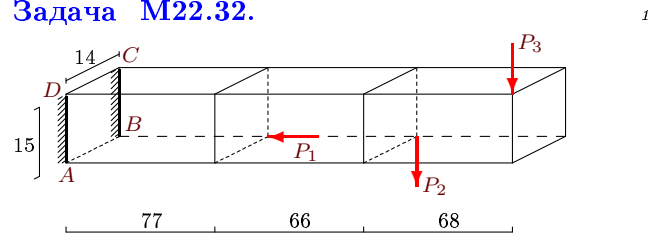
$P_1 = 35\text{кН}, P_2 = 30\text{кН}, P_3 = 30\text{кН}.$

Задача M22.31.



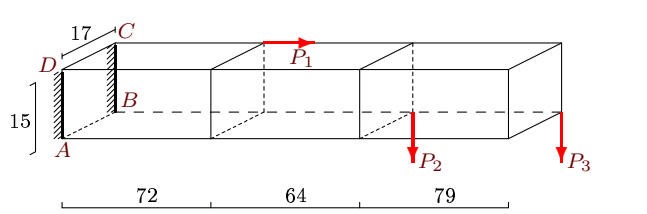
$P_1 = 30\text{кН}, P_2 = 25\text{кН}, P_3 = 25\text{кН}.$

Задача M22.32.



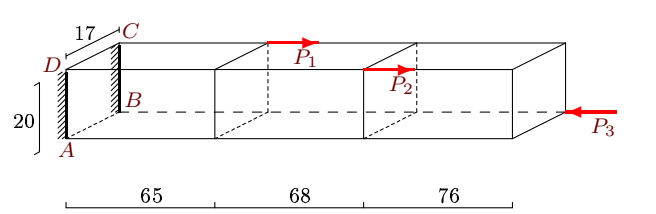
$P_1 = 25\text{кН}, P_2 = 30\text{кН}, P_3 = 30\text{кН}.$

Задача M22.33.



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

Задача M22.34.



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

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	3844.8	10032.8	9394.2	-0.495	-111.416	-165.000	111.416	165.000
2	4802.0	10804.5	11294.3	0.223	-32.580	-35.641	31.560	34.621
3	2013.9	1441.9	2785.8	1.242	147.457	-175.429	-148.156	174.730
4	2304.0	4096.0	4912.1	0.677	80.143	173.503	-77.539	-170.898
5	8000.0	2880.0	7153.9	-1.150	-76.625	-84.125	79.125	86.625
6	5731.8	3887.3	7676.9	0.000	-18.487	-8.403	16.807	6.723
7	2929.3	4437.3	5848.8	0.193	26.022	-29.868	-24.099	31.791
8	1663.8	3093.8	3613.7	0.584	-96.198	-74.380	96.198	74.380
9	12574.8	16859.3	23897.5	0.081	-81.198	81.198	81.198	-81.198
10	3937.5	3430.0	6127.0	-1.707	-228.667	-234.381	226.762	232.476
11	7776.0	6144.0	11409.4	-0.706	-100.116	-39.699	102.894	42.477
12	10692.0	15972.0	21227.2	-0.414	-54.626	-24.667	52.858	22.899
13	1441.9	2013.9	2785.8	-0.615	-95.080	-245.161	90.885	240.965
14	1331.0	1584.0	2411.8	-2.483	-160.262	-142.080	154.201	136.019
15	6859.0	2736.0	6615.6	-2.126	-199.094	20.424	199.094	-20.424
16	6550.7	5802.7	10296.8	-0.150	-210.248	210.248	210.248	-210.248
17	9716.9	7778.9	14369.9	-0.243	-38.627	25.624	38.627	-25.624
18	7290.0	5062.5	9902.3	-0.537	-128.765	-128.765	128.765	128.765
19	9716.9	7778.9	14369.9	-0.875	-121.175	-25.509	123.342	27.676
20	2929.3	4437.3	5848.8	-0.992	-128.691	-233.439	128.691	233.439
21	18634.0	16978.5	29794.8	-0.376	-76.623	-76.623	76.623	76.623
22	22306.2	20408.7	35756.0	0.008	-64.220	64.220	64.220	-64.220
23	2197.0	1872.0	3373.3	1.783	12.759	84.874	-12.759	-84.874
24	3937.5	3430.0	6127.0	0.643	84.286	75.714	-87.143	-78.571
25	10666.7	6826.7	13803.5	-0.869	42.969	-46.094	-41.406	47.656
26	2972.7	2563.2	4597.1	2.574	9.763	-9.763	-9.763	9.763
27	2972.7	2563.2	4597.1	0.055	255.875	-255.875	-255.875	255.875
28	9716.9	7778.9	14369.9	-0.897	17.529	-21.863	-15.362	24.030
29	2440.2	9760.7	6705.6	-0.240	-39.444	24.568	35.725	-28.287
30	7776.0	6144.0	11409.4	-1.141	-150.694	-92.361	150.694	92.361
31	2972.7	2563.2	4597.1	2.149	17.498	-17.498	-17.498	17.498
32	3937.5	3430.0	6127.0	-1.517	-203.476	-210.619	201.095	208.238
33	4781.3	6141.3	8931.4	-1.542	-208.275	-202.392	210.235	204.353
34	11333.3	8188.3	15762.1	0.000	-4.412	-11.471	6.176	13.235

М22 файл о22m1А