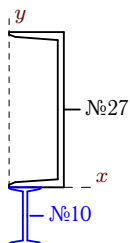


## Геометрические характеристики сечений

Найти максимальный и минимальный моменты инерции составной фигуры и угол наклона главной оси инерции к оси  $x$ . Ось  $x$  горизонтальная, направлена направо, ось  $y$  — вертикальная вверх. Используются двутавры ГОСТ 8239-89, швеллеры ГОСТ 8240-89 и уголки ГОСТ 8509-86

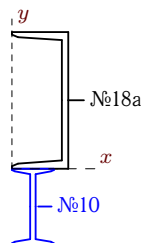
Задача 6.1.

3



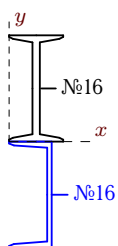
Задача 6.2.

3



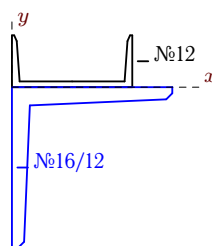
Задача 6.3.

3



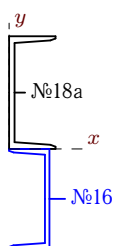
Задача 6.4.

3



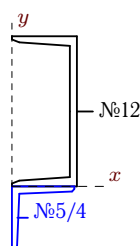
Задача 6.5.

3



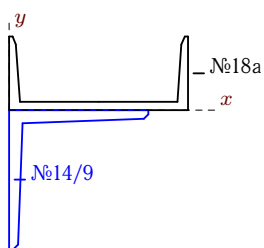
Задача 6.6.

3



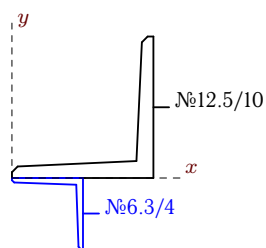
Задача 6.7.

3



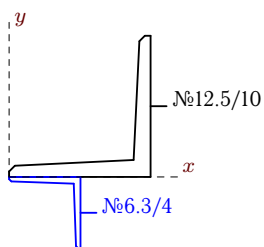
Задача 6.8.

3



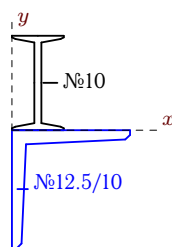
Задача 6.9.

3



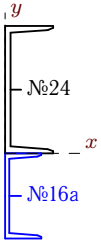
Задача 6.10.

3



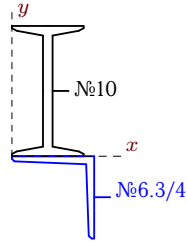
**Задача 6.11.**

3



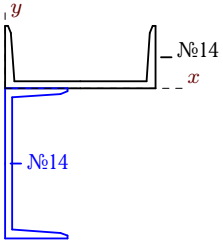
**Задача 6.12.**

3



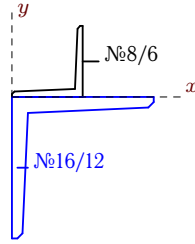
**Задача 6.13.**

3



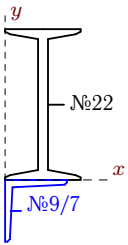
**Задача 6.14.**

3



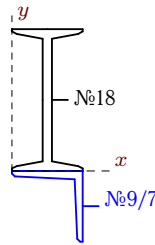
**Задача 6.15.**

3



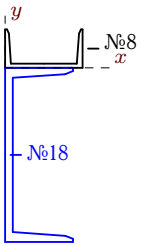
**Задача 6.16.**

3



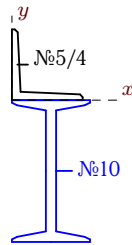
**Задача 6.17.**

3



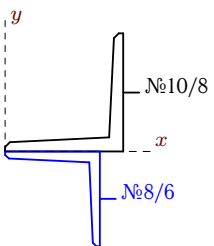
**Задача 6.18.**

3



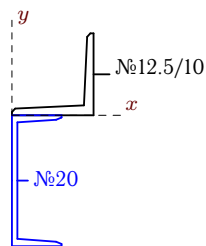
**Задача 6.19.**

3



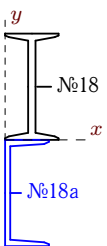
**Задача 6.20.**

3



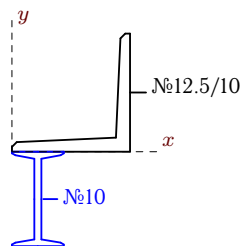
**Задача 6.21.**

3



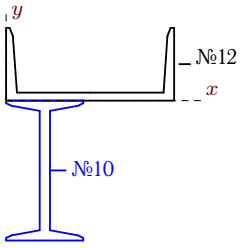
**Задача 6.22.**

3



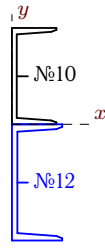
Задача 6.23.

3



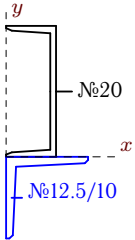
Задача 6.24.

3



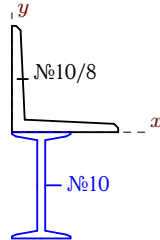
Задача 6.25.

3



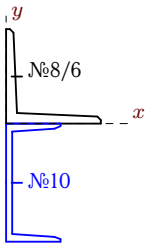
Задача 6.26.

3



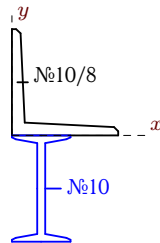
Задача 6.27.

3



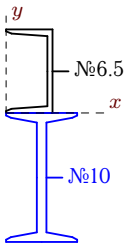
Задача 6.28.

3



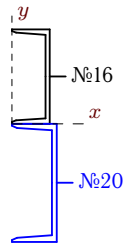
Задача 6.29.

3



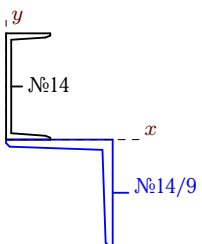
Задача 6.30.

3



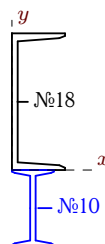
Задача 6.31.

3



Задача 6.32.

3



### Геометрические характеристики сечений

	$F$	$x_c$	$y_c$	$J_x$	$J_y$	$J_{xy}$	$J_{max}$	$J_{min}$	$\alpha_x$
	см <sup>2</sup>	см		см <sup>4</sup>					градусы
1	47.20	5.94	8.80	7420.85	443.83	708.59	7492.09	372.60	-5.74
2	34.20	4.39	4.09	2914.74	172.37	274.81	2942.00	145.10	-5.67
3	38.30	4.31	0.44	4063.83	124.79	-84.01	4065.62	123.00	1.22
4	50.70	4.81	-2.83	1289.20	1242.43	630.67	1896.92	634.72	-43.94
5	40.30	3.24	1.36	4818.54	229.13	-418.67	4856.42	191.25	5.17
6	17.19	3.14	4.33	477.13	56.06	56.03	484.46	48.73	-7.45
7	46.90	6.25	-0.98	979.37	1974.58	633.69	2282.69	671.26	-64.07
8	29.26	8.30	2.58	487.73	460.10	294.01	768.25	179.58	-43.66
9	29.26	8.30	2.58	487.73	460.10	294.01	768.25	179.58	-43.66
10	36.30	3.22	-0.66	1131.58	381.84	163.48	1165.68	347.74	-11.78
11	50.10	2.26	4.22	8487.07	288.90	100.05	8488.29	287.68	-0.70
12	16.96	3.29	3.04	373.97	48.94	-54.67	382.92	39.99	9.30
13	31.20	4.33	-2.67	1122.72	757.99	360.45	1344.31	536.40	-31.58
14	46.78	4.67	-3.07	1294.69	985.12	640.47	1798.81	481.00	-38.21
15	42.90	4.63	7.14	4236.16	331.85	413.78	4279.53	288.48	-5.98
16	35.70	5.20	5.05	2444.97	210.12	-243.42	2471.17	183.92	6.14
17	29.68	2.56	-5.88	1768.53	201.98	133.02	1779.75	190.76	-4.82
18	15.89	2.41	-3.44	326.79	32.62	-31.07	330.03	29.38	5.96
19	24.98	6.71	0.90	346.95	216.15	94.27	396.29	166.81	-27.62
20	47.70	5.63	-3.15	4036.49	1053.78	1330.13	4543.49	546.79	-20.86
21	45.60	3.35	0.24	6171.04	251.59	485.99	6210.68	211.95	-4.66
22	36.30	6.97	0.66	1131.58	696.73	638.64	1588.79	239.52	-35.60
23	25.30	4.46	-1.56	499.02	388.53	134.08	588.79	298.76	-33.80
24	24.20	1.49	-1.05	1202.85	51.66	-6.59	1202.89	51.62	0.33
25	47.70	4.47	3.15	4036.49	524.57	544.50	4118.98	442.09	-8.61
26	27.60	2.75	-0.62	752.38	164.90	-86.00	764.71	152.57	8.16
27	20.28	1.79	-1.67	491.63	80.24	-6.21	491.72	80.14	0.87
28	27.60	2.75	-0.62	752.38	164.90	-86.00	764.71	152.57	8.16
29	19.51	2.60	-1.82	560.99	27.30	-14.86	561.41	26.89	1.59
30	41.50	5.12	-2.15	5573.67	185.13	-170.84	5579.08	179.72	1.81
31	40.30	6.91	0.39	2068.10	1210.35	-1154.25	2870.58	407.87	34.81
32	32.70	2.24	3.86	2776.88	108.88	-86.14	2779.66	106.11	1.85