

	A	B	C	D
1	230	200	210	240
2	190	210	200	200
3	200	180	240	220
4	220	180	210	230

a)

30	0	10	40
0	20	10	10
20	0	60	40
40	0	30	50

30	0	0	30
0	20	0	0
20	0	50	30
40	0	20	40

30	20	0	30
0	40	0	0
0	0	30	10
20	0	0	20

1-C 210
2-D 200
3-A 200
4-B 180
Z = 790

b)

	A	B	C	D
Fict	0	0	0	0
2	190	210	200	200
3	200	180	240	220
4	220	180	210	230

0	0	0	0
0	20	10	10
20	0	60	40
40	0	30	50

10	10	0	0
0	20	0	0
20	0	50	30
40	0	20	40

10	30	0	0
0	40	0	0
0	0	30	10
20	0	0	20

2-D 200 2-A 190
3-A 200 3-B 180
4-B 180 4-C 210
C fica sem a peça D fica sem
z = 580 580

c)

2-C 200
3-A 200
4-B 180

D fica sem a peça
 $z = 580$

d)

	A	B	C	D
1	230	200	210	240
2	190	210	200	200
3	200	180	240	220
4	220	180	210	230

10	0	0
0	60	40
0	30	50

40	0	0
0	30	10
0	0	20

1-A 230
 2-D 200
 3-B 180
 4-C 210
 $z = 820$

e)

	A	B	C	D
1	230	200	210	240
2	190	210	200	200
3	M	180	240	220
4	220	180	210	230

30	0	10	40
0	20	10	10
M-180	0	60	40
40	0	30	50

30	0	0	30
0	20	0	0
M-180	0	50	30
40	0	20	40

30	20	0	30
0	40	0	0
M-200	0	30	10
20	0	0	20

20	20	0	30
0	50	10	0
M-210	0	30	0
10	0	0	10

1-C 210
 2-A 190
 3-D 220
 4-B 180
 $z = 800$