

Problema 6

Piezas	A	B	C	D	E	F	G	H	I	J	K	L
1	13	0	5	10	10	15	18	19	20	21	15	10
2	0	5	5	10	10	15	15	20	20	19	19	18
3	8	4	3	11	12	13	14	15	16	17	18	20
4	0	20	21	0	5	10	15	20	25	20	10	15
5	20	14	0	5	6	7	8	9	10	11	12	13
6	15	0	1	2	3	4	5	6	7	8	9	10
7	13	18	17	16	13	14	16	16	18	3	3	0
8	16	0	5	4	0	5	10	15	20	0	5	10
9	13	5	1	0	10	7	5	6	7	8	9	10
10	25	20	7	20	10	7	0	10	15	12	12	12
11	20	0	10	21	5	10	1	11	14	13	13	13
12	10	10	20	18	0	12	2	12	13	14	13	16

Piezas	A	B	C	D	E	F	G	H	I	J	K	L
1	13	0	5	10	10	14	18	13	13	21	12	10
2	0	5	5	10	10	14	15	14	13	19	16	18
3	8	4	3	11	12	12	14	9	9	17	13	20
4	0	20	21	0	5	9	15	14	18	20	7	15
5	20	14	0	5	6	6	8	3	3	11	9	13
6	15	0	1	2	3	3	5	0	0	8	6	10
7	13	18	17	16	13	13	16	10	11	3	0	0
8	16	0	5	4	0	4	10	9	13	0	2	10
9	13	5	1	0	10	0	5	0	0	8	6	10
10	25	20	7	20	10	6	0	4	8	12	9	12
11	20	0	10	21	5	9	7	5	7	13	10	13
12	10	10	20	18	0	11	2	6	6	14	12	16

11 piezas

menor = 3

Piezas	A	B	C	D	E	F	G	H	I	J	K	L
1		• B				11		10	10	19		7
2	• 2					11		11	10	16		15
3						9		6	6	14		17
4	• A			• D		6		11	15	17		12
5			• C			3		4	0	8		20
6												
7										• J	• K	• L
8					• E							
9				• 9		3	• 6	1	5	9		9
10						6		2	4	10		10
11		• 11										
12				• 12		8		3	3	11		13

$n = 12$ líneas

$$\text{total} = 16 + 10 + 10 + 10 + 10 + 16 + 16 + 19 + 20 + 15 + 15 + 12$$

// Costo total = 147

b)

Piezas	A	B	C	D	E	F	G	H	I	J	K	L
1	8	21	16	11	11	6	3	4	5	0	6	11
2	20	15	15	10	10	5	5	0	0	1	1	5
3	12	16	18	0	8	7	6	5	4	3	2	0
4	25	5	4	25	20	15	15	5	0	5	15	10
5	0	6	20	15	14	13	12	11	10	9	8	7
6	0	15	14	13	12	11	10	9	8	7	6	5
7	5	0	1	2	5	4	2	2	0	5	15	18
8	4	20	14	16	20	15	10	5	0	20	15	10
9	0	8	12	13	3	12	8	7	0	5	4	3
10	0	5	18	5	15	18	25	15	10	13	13	13
11	1	21	11	0	16	11	20	10	7	8	8	8
12	10	10	0	2	20	8	18	8	7	6	5	4

$n = 9$ líneas

min = 2

Pizzas	A	B	C	D	E	F	G	H	I	J	K	L
1	8	19	16	11	9	4	1	2	3	0	4	11
2	22	15	17	12	10	0	5	0	2	3	1	2
3	12	14	17	9	6	5	4	3	4	3	0	0
4	27	3	6	27	20	15	10	5	4	9	15	10
5	0	4	20	15	12	11	10	9	10	9	6	7
6	0	13	14	13	10	9	8	7	8	7	4	5
7	7	0	3	4	5	4	2	2	2	17	15	20
8	4	18	15	16	18	13	8	3	0	20	13	10
9	0	6	12	13	1	10	6	5	4	5	2	3
10	0	13	18	5	13	16	23	13	10	13	11	13
11	1	19	11	0	14	9	18	8	7	8	6	8
12	10	8	0	2	18	6	16	6	7	6	3	4

n = 8 pizzas
min = 1

Pizzas	A	B	C	D	E	F	G	H	I	J	K	L
1					8	3	0	1		0	3	11
2					10	0	5	0			1	2
3					6	5	4	3			0	0
4					19	14	9	4			14	9
5					11	10	9	8			5	6
6					9	8	7	6			3	4
7					4	3	7	1			14	19
8					17	12	7	2			12	9
9					0	9	5	4			1	2
10					12	15	22	12			10	12
11					13	8	17	7			5	7
12					17	5	15	5			2	3

n = 10
min = 1

Pizzas	A	B	C	D	E	F	G	H	I	J	K	L
1					8	3	0	1		0	3	11
2					10	0	5	0			1	2
3					6	5	4	3			0	0
4					19	13	8	3			13	8
5	0				11	9	8	7			4	5
6	0				9	7	6	5			2	3
7		0			4	2	0	0			13	18
8					17	11	6	1	0		11	8
9	0				0	8	4	3			0	1
10	0				12	14	21	11			0	11
11				0	13	7	16	6			4	6
12			0		17	4	14	4			1	2

n = 12
A = 5 pizzas
B = 7 pizzas
C = 12 pizzas
E = 9 pizzas
F = 2 pizzas
G = 0 pizzas
H = 0 pizzas
I = 8 pizzas
J = 1 pizza
K = 0 pizzas
L = 3 pizzas

IL// piezas asignadas = ~~30~~ 30 + 30 + 30 + 25 + 25 + 0 + 0 + 30 + 31 + 0 + 30

piezas asignadas = 231

c)

Piezas	A	B	C	D	E	F	I	J	K	L	Fit	Fi2	Minor
1	23	10	15	20	20	25	30	31	25	20	0	0	10
2	10	15	15	20	20	25	30	29	29	28	0	0	10
3	18	14	13	21	22	23	26	27	28	30	0	0	13
4	10	30	31	10	15	20	35	30	20	25	0	0	10
5	30	24	10	15	16	17	20	21	22	23	0	0	10
6	25	10	11	12	13	14	17	18	19	20	0	0	10
7	25	30	29	28	25	26	30	15	15	12	0	0	12
8	26	10	15	14	10	15	30	10	15	20	0	0	10
9	28	20	16	15	25	16	22	23	24	25	0	0	15
10	35	30	17	30	20	17	25	22	22	22	0	0	17
11	30	10	20	31	15	20	24	23	23	23	0	0	10
12	20	20	30	28	10	22	23	24	25	26	0	0	10

Piezas	A	B	C	D	E	F	I	J	K	L	Fit	Fi2
1	13	0	5	10	10	15	20	21	15	10	-10	-10
2	0	5	5	10	10	15	20	19	19	18	-10	-10
3	5	1	0	8	9	10	13	14	15	17	-13	-13
4	0	20	21	0	5	10	25	20	10	15	-10	-10
5	20	14	0	5	6	7	10	11	12	13	-10	-10
6	15	0	1	2	3	4	7	8	9	0	-10	-10
7	13	18	17	16	13	14	18	3	3	0	-12	-12
8	16	0	5	4	0	5	20	0	5	10	-10	-10
9	13	5	4	0	10	1	7	8	9	10	-16	-16
10	18	13	0	13	3	0	8	5	5	5	-17	-17
11	20	0	10	27	5	10	14	13	13	13	-10	-10
12	10	10	20	18	0	12	13	14	15	16	-10	-10

n = 7 líneas

min = 1

Pizzas	A	B	C	D	E	F	I	J	K	L	Flz	Flz2
1						14	19	20	14	9	M	M
2	0					14	19	18	18	17	M	M
3			0			9	12	13	14	16	M	M
4	0			0		9	24	19	9	14	M	M
5			0			6	9	10	11	12	M	M
6		0				3	6	7	8	0	M	M
7						13	77	2	2	0	M	M
8		1			1	4	19	0	10	10	M	M
9				0		0	6	7	9	9	M	M
10			1			0	7	4	5	5	M	M
11						0	13	12	12	12	M	M
12					0	11	12	13	14	13	M	M

$n = 9$ líneas

$\text{Min} = 2$

	A	B	C	D	E	F	I	J	K	L	Flz	Flz2
1							17	18	12		M	M
2	0						17	16	16		M	M
3			0				10	11	12		M	M
4	0			0			22	17	7		M	M
5			0				7	8	9		M	M
6		0					4	5	6	0	M	M
7								0	0	0		
8								0				
9				0		0	4	5	7		M	M
10						0						
11							11	10	10		M	M
12					0		10	11	12		M	M

$n = 10$ líneas

$\text{min} = 4$

	A	B	C	D	E	F	G	H	I	J	K	L	Fl1	Fl2
1										14	8		M	M
2	0									12	12		M	M
3			0							7	8		M	M
4	0			0						13	3		M	M
5			0							4	5		M	M
6		0							0	7	2	0	M	M
7										0	0	M		
8		7			1					0	0			
9				0		0	0	1	3				M	M
10			1			0							M	M
11										6	6		M	M
12										7	8		M	M

$n = 11$ líneas

$\min = 1$

	A	B	C	D	E	F	G	H	I	J	K	L	Fl1	Fl2
1										13	7		M	M
2	0									11	11		M	M
3			0							6	7		M	M
4	0			0						12	2		M	M
5			0							3	4		M	M
6		4								0	7	1	M	M
7										7	0	1		
8		1			1									
9				0		0	0	0	2				M	M
10						1							M	M
11										3	5		M	M
12				0						6	7		M	M

$n = 12$ líneas

$A = 2$ pizzas

$B = 6$ pizzas

$C = 3$ pizzas

$D = 4$ pizzas

$E = 12$ pizzas

$F = 9$ pizzas

$I = 0$

$J = 0$

$K = 7$ pizzas

$L = 0$

$$N // \text{costo total} = 10 + 10 + 13 + 10 + 10 + 16 + 15$$

$$N // \text{costo total} = 84$$