3	5	2	1	22
8	7	20	28	24
9	23	21	22	23
24	21	24	24	28
23	26	23	21	23

Imagen de entrada

$*$

$1/9$

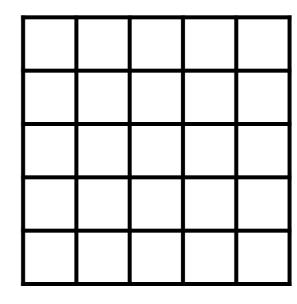| 1	1	1
1	1	1
1	1	1

Filtro

$=$

Imagen resultado

La convolución está dada por:

$$\hat{g}(x,y) = w * f = \sum_{s=-a}^{a} \sum_{t=-b}^{b} w(s,t) f(x+s, y+t)$$

$$\text{con } a = (m-1)/2 \text{ y } b = (n-1)/2$$

3	5	2	1	22
8	7	20	28	24
9	23	21	22	23
24	21	24	24	28
23	26	23	21	23

Imagen de entrada

$*$

1/9

1	1	1
1	1	1
1	1	1

Filtro

$=$

?				

Imagen resultado

Grid 1 (3×3 window at top-left, values 1/9):

1/9	1/9	1/9	2	1	22
1/9 (3)	1/9 (5)	1/9	2	1	22
1/9 (8)	1/9 (7)	1/9 (20)	28	24
9	23	21	22	23
24	21	24	24	28
23	26	23	21	23

Grid 2 (3×3 window shifted right):

1/9	1/9	1/9	1	22
3 (1/9)	5 (1/9)	2 (1/9)	1	22
8 (1/9)	7 (1/9)	20 (1/9)	28	24
9	23	21	22	23
24	21	24	24	28
23	26	23	21	23

. . .

Grid 3 (3×3 window in middle):

3	5	2	1	22
8	7 (1/9)	20 (1/9)	28 (1/9)	24
9	23 (1/9)	21 (1/9)	22 (1/9)	23
24	21 (1/9)	24 (1/9)	24 (1/9)	28
23	26	23	21	23

. . .

Grid 4 (3×3 window at bottom-right):

3	5	2	1	22
8	7	20	28	24
9	23	21	22	23
24	21	24	24 (1/9)	28 (1/9)	1/9
23	26	23	21 (1/9)	23 (1/9)	1/9
			1/9	1/9	1/9

Output grids (5×5) below each, with **?** at:
- Grid 1: top-left cell
- Grid 2: top row, second cell
- Grid 3: center cell
- Grid 4: bottom-right cell

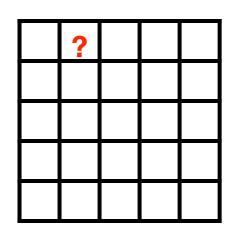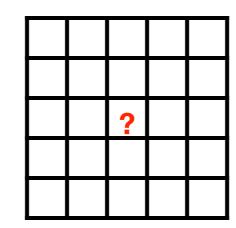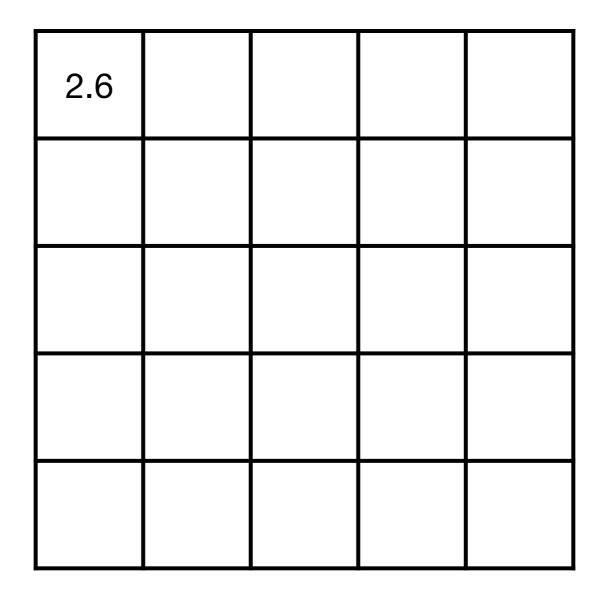| 0	0	0	0	0	0	0
0	3	5	2	1	22	0
0	8	7	20	28	24	0
0	9	23	21	22	23	0
0	24	21	24	24	28	0
0	23	26	23	21	23	0
0	0	0	0	0	0	0

0 1/9	0 1/9	0 1/9	0	0	0	0
0 1/9	3 1/9	5 1/9	2	1	22	0
0 1/9	8 1/9	7 1/9	20	28	24	0
0	9	23	21	22	23	0
0	24	21	24	24	28	0
0	23	26	23	21	23	0
0	0	0	0	0	0	0

$$(0+0+0+0+3+5+0+8+7)/9 = 2.6$$

2.6				

0	0	0	0	0	0	0
0	3	5	2	1	22	0
0	8	7	20	28	24	0
0	9	23	21 1/9	22 1/9	23 1/9	0
0	24	21	24 1/9	24 1/9	28 1/9	0
0	23	26	23 1/9	21 1/9	23 1/9	0
0	0	0	0	0	0	0

$(21+22+23+24+24+28+23+21+23)/9 = 23.2$

2.6				
			23.2	

$$(5+2+1+7+20+28+23+21+22)/9 = 14.3$$

0	0	0	0	0	0	0
0	3	5 1/9	2 1/9	1 1/9	22	0
0	8	7 1/9	20 1/9	28 1/9	24	0
0	9	23 1/9	21 1/9	22 1/9	23	0
0	24	21	24	24	28	0
0	23	26	23	21	23	0
0	0	0	0	0	0	0

2.6				
		14.3		
			23.2	