Figure 0-1.

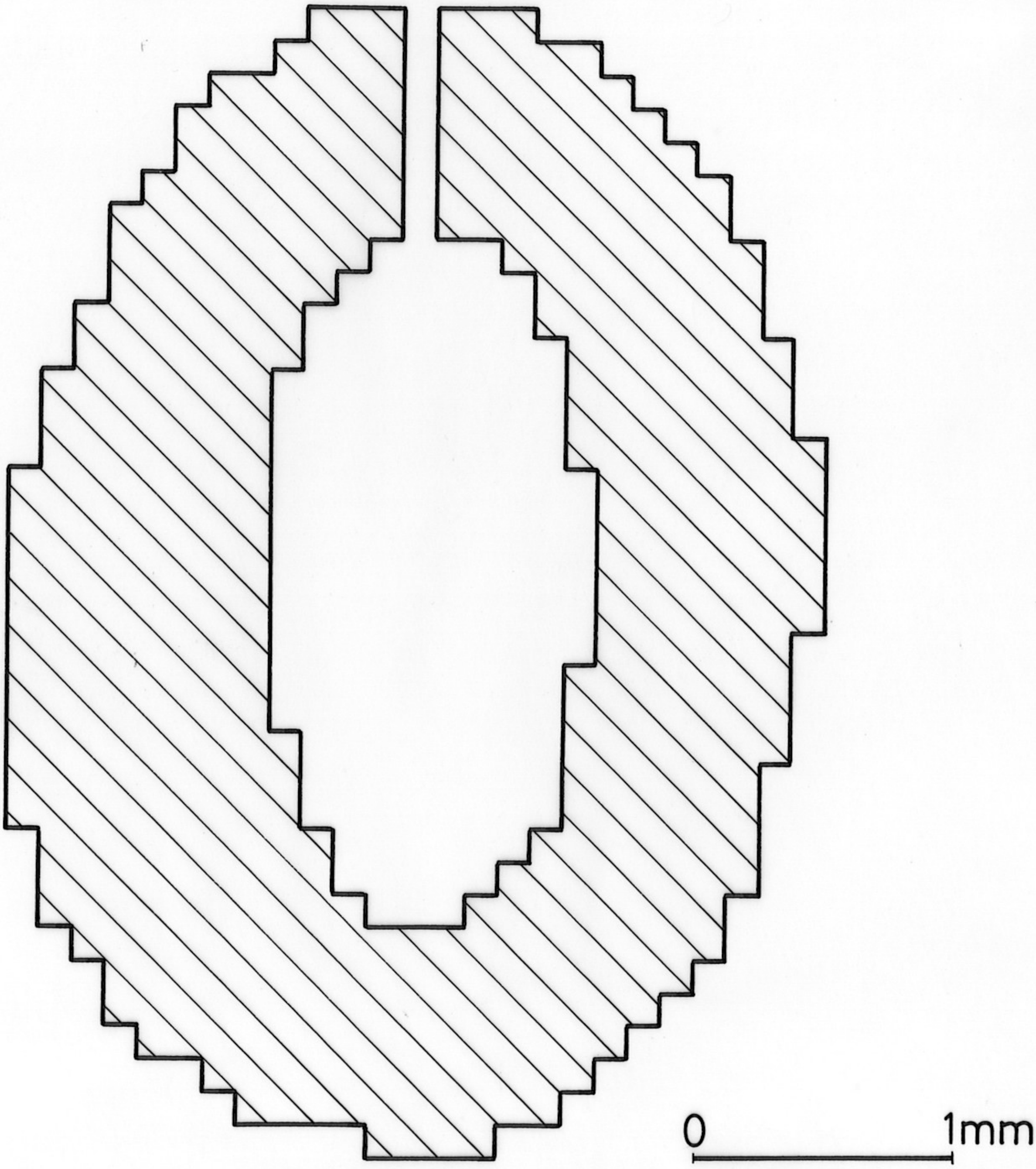


Figure 0-2.

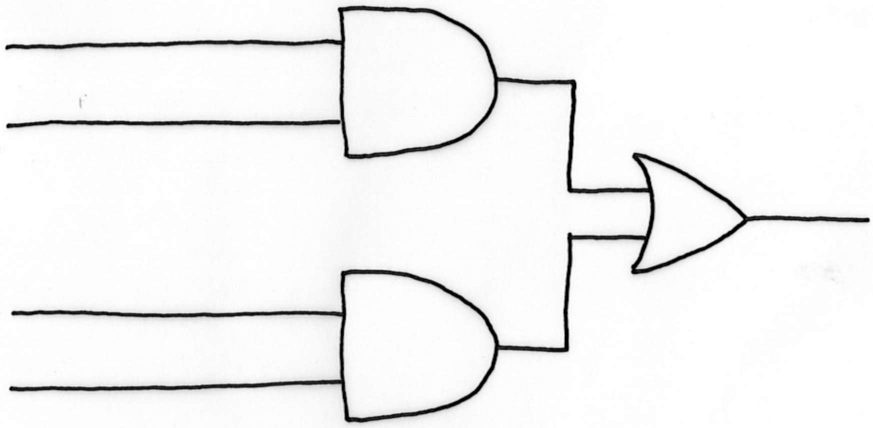


Figure 0-3.

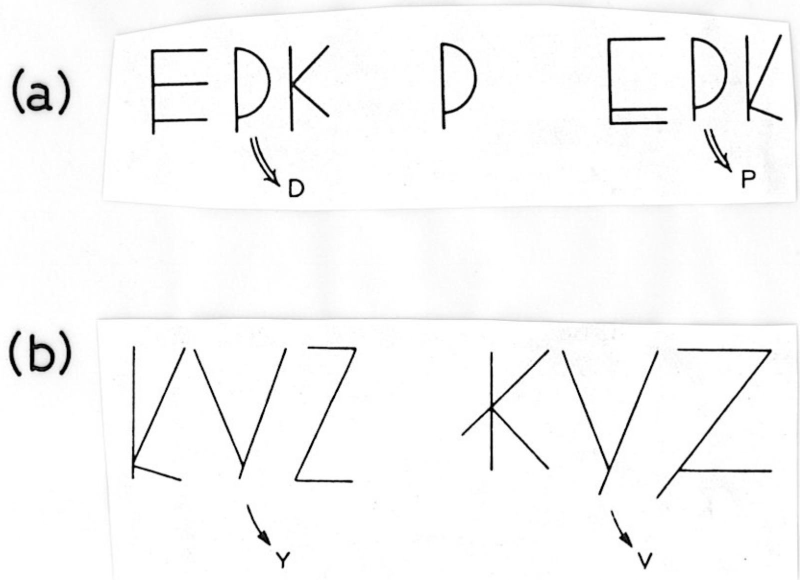


Figure 1-1. The three regular tessellations.

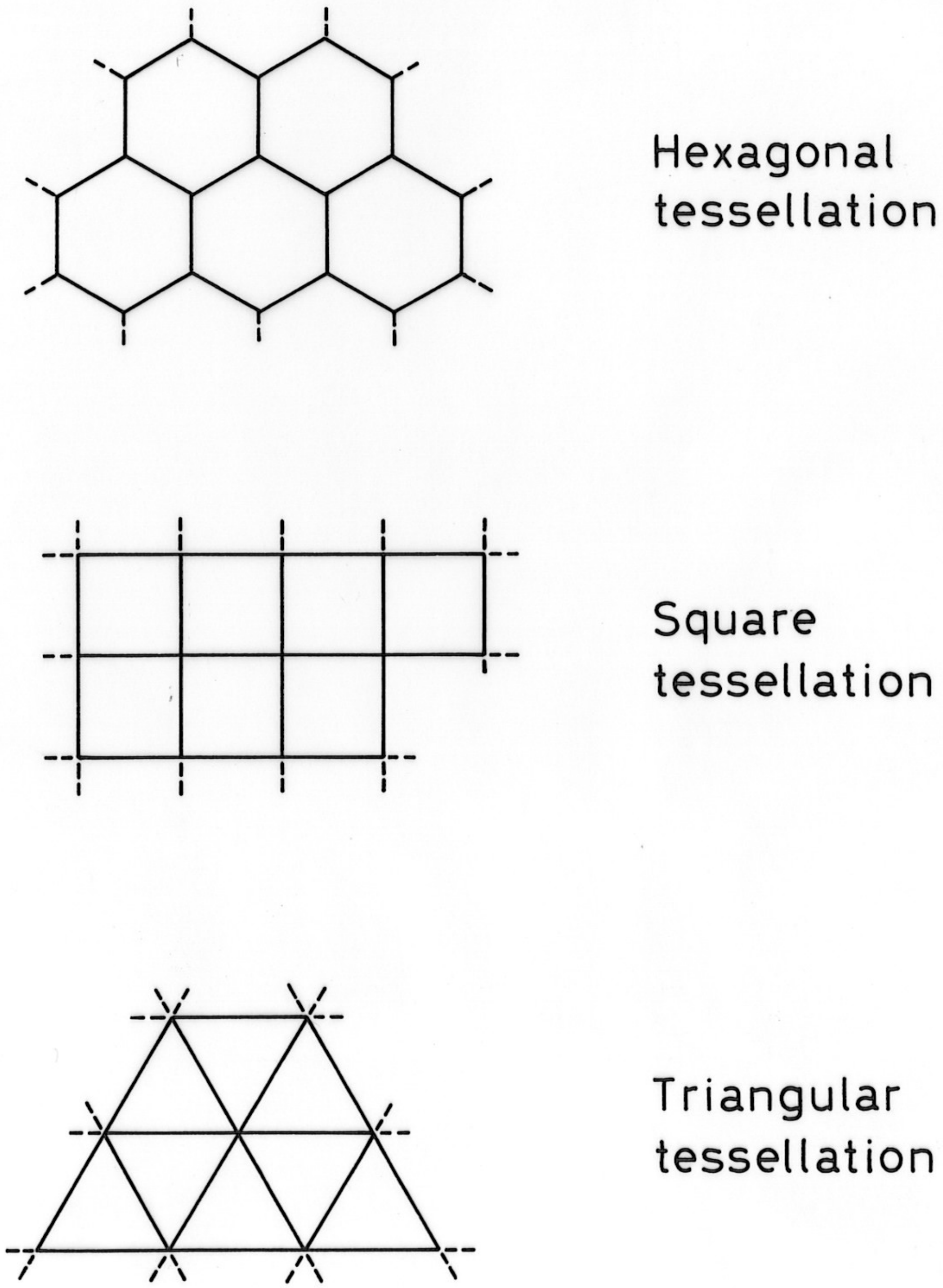


Figure 1-2. Border of a cell in a partition of the plane by a regular tessellation.

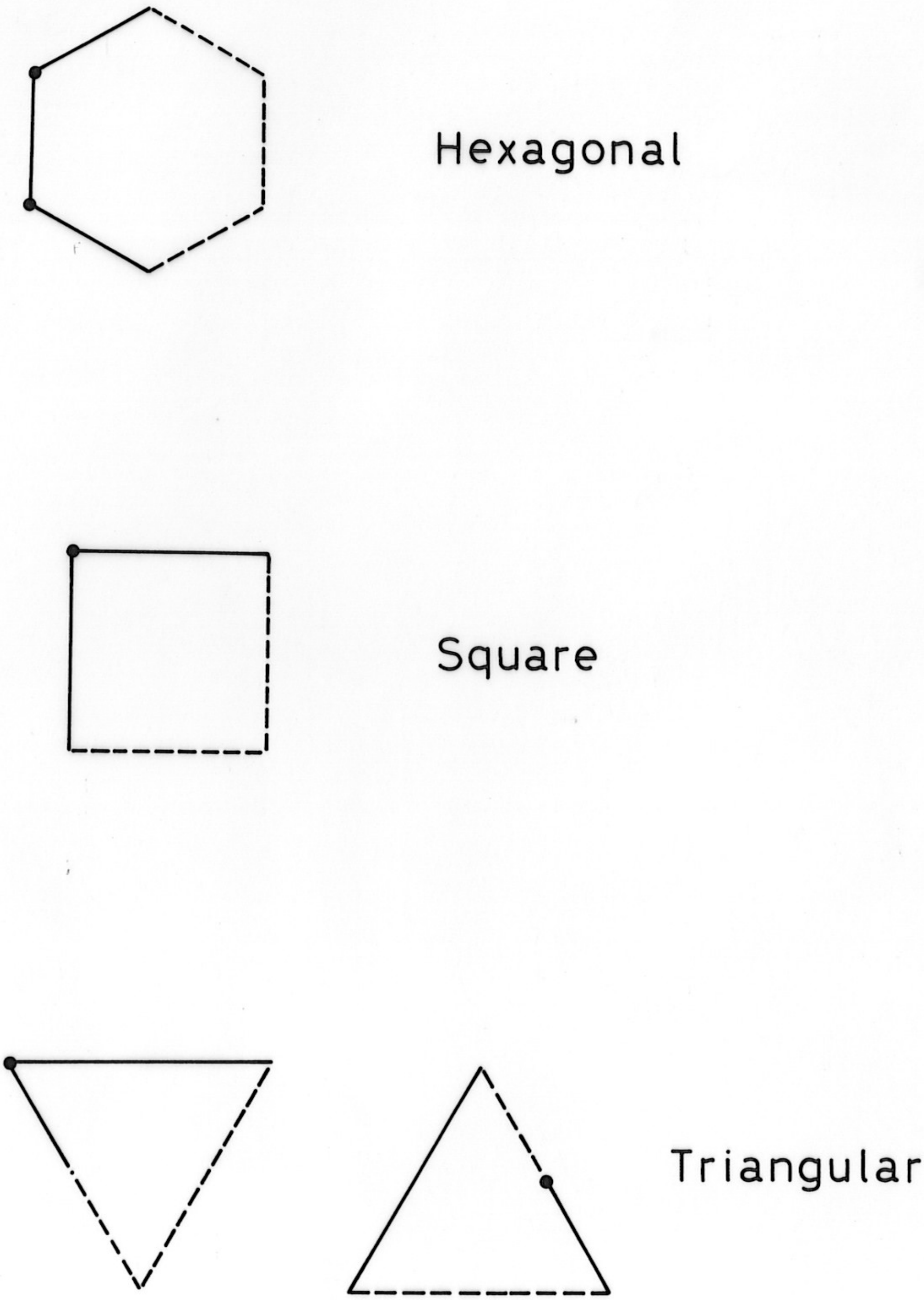
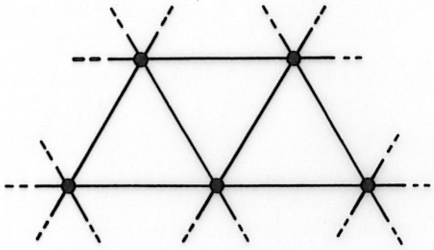
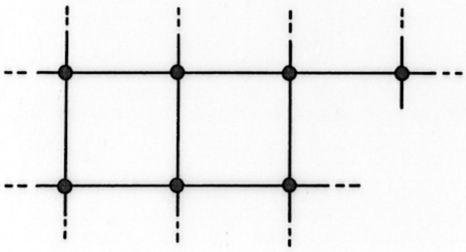


Figure 1-3.

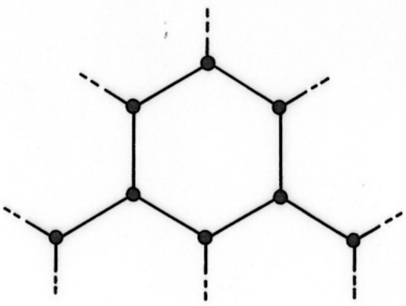
Restricted adjacency graph :



- of a hexagonal tessellation



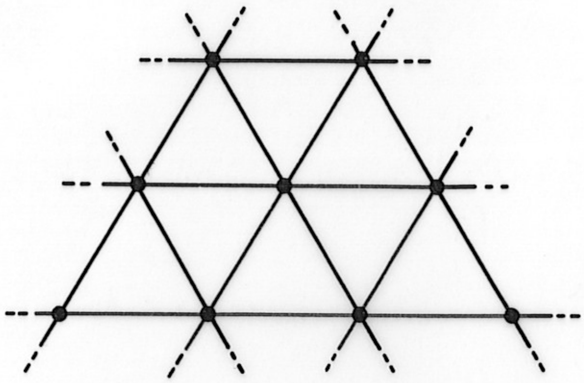
- of a square tessellation



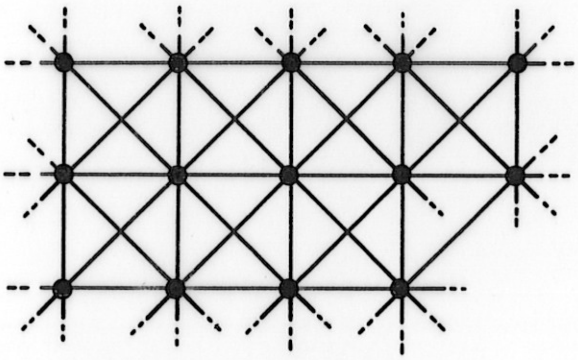
- of a triangular tessellation

Figure 1-4.

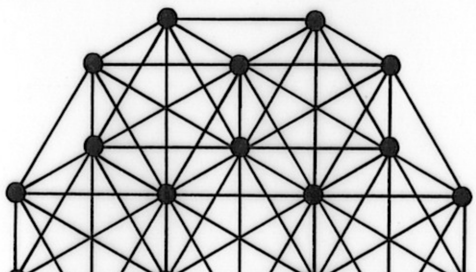
Extended adjacency graph :



- of a hexagonal tessellation



- of a square tessellation



- of a triangular tessellation

Figure 1-5. M = 5, N = 4

	0	1	2	3
0	(0,0)	(0,1)	(0,2)	(0,3)
1	(1,0)	(1,1)	(1,2)	(1,3)
2	(2,0)	(2,1)	(2,2)	(2,3)
3	(3,0)	(3,1)	(3,2)	(3,3)
4	(4,0)	(4,1)	(4,2)	(4,3)

grid

dual grid

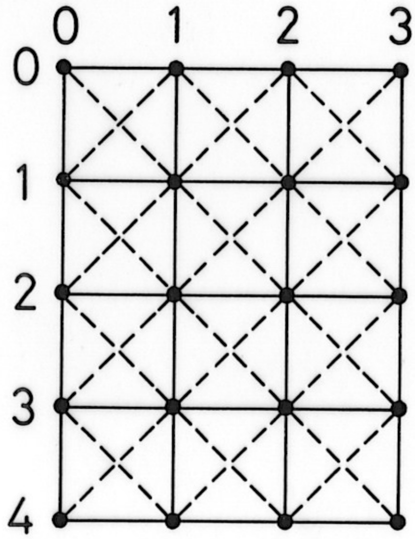


Figure 1-6. Grid representation of a line segment.

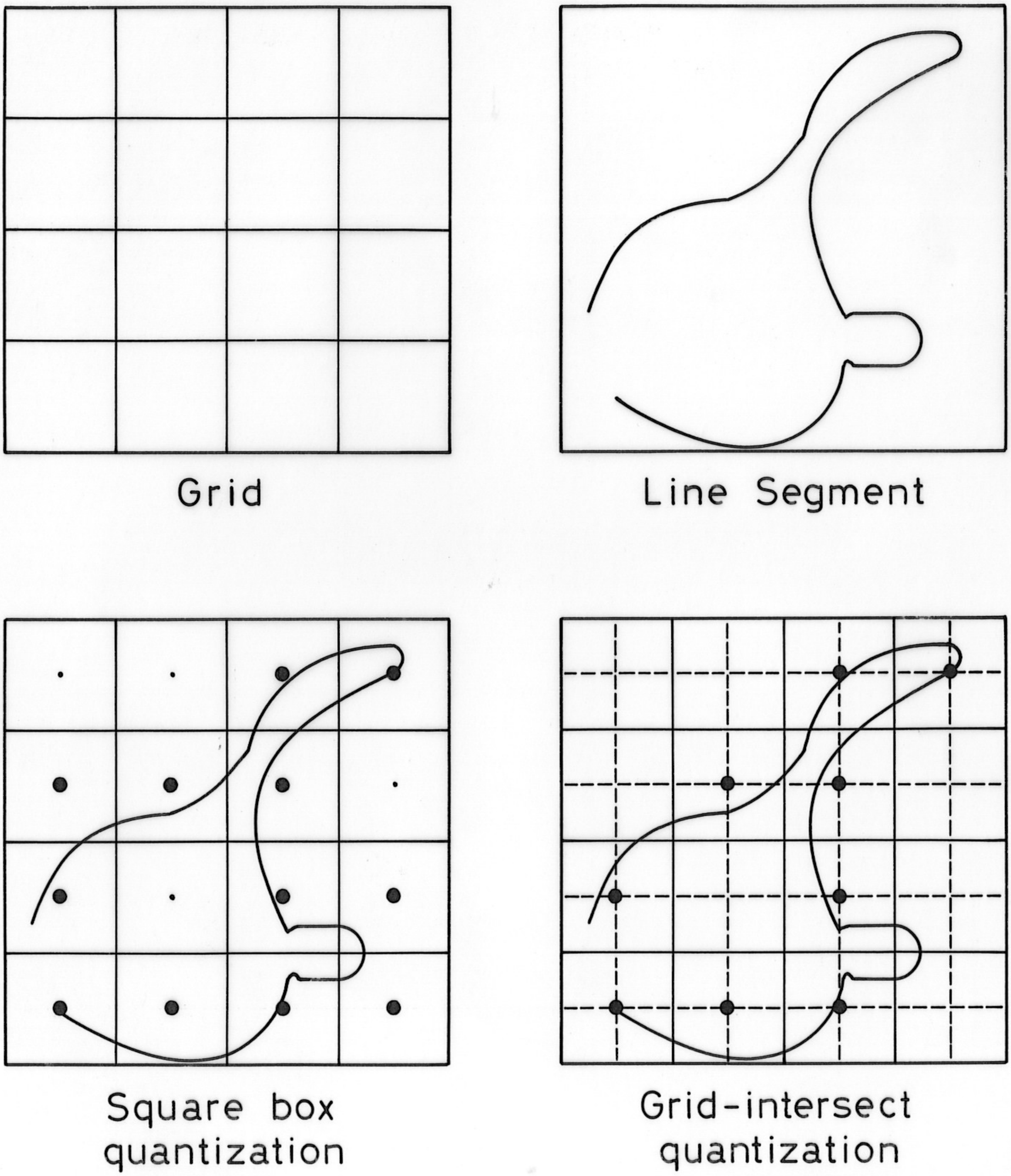
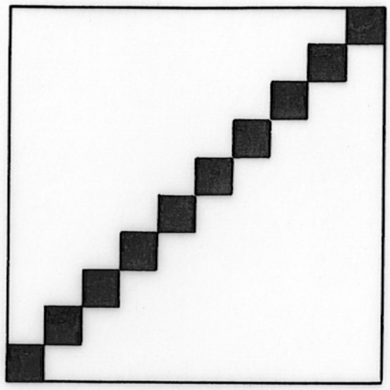
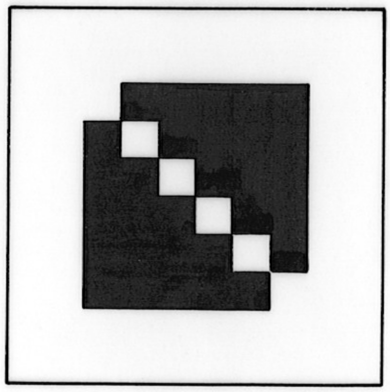


Figure 1-7. Two images on a 10 × 10 grid.



(a)



(b)

Figure 1-8.

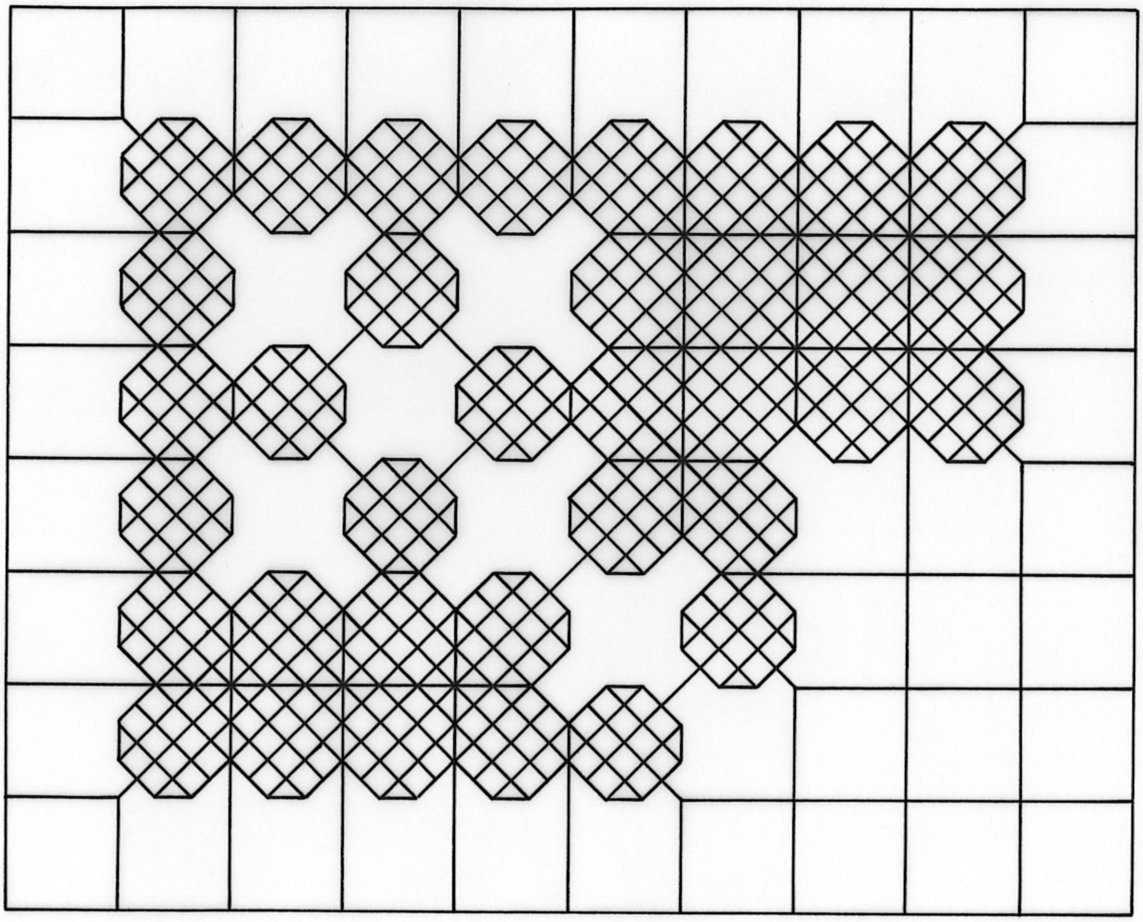
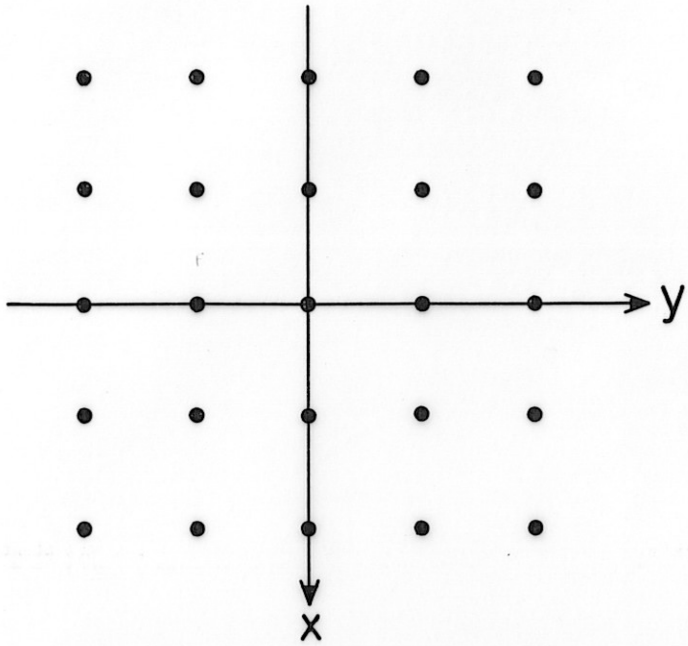
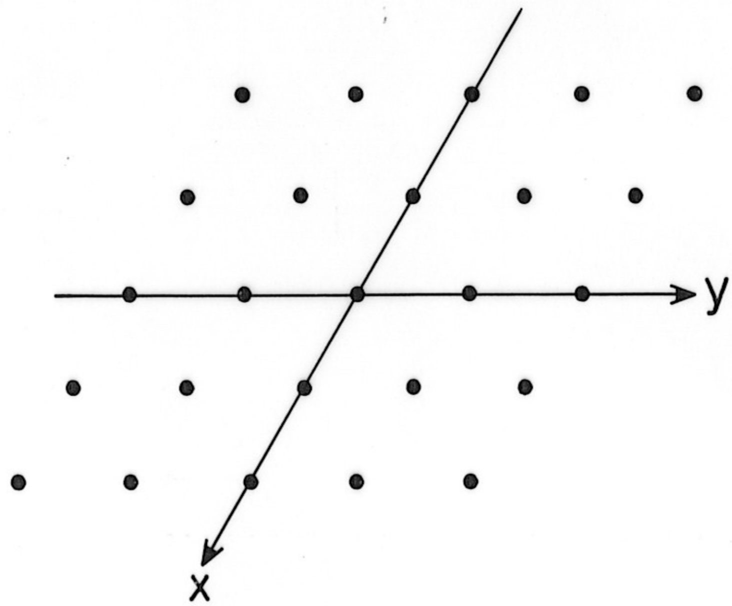


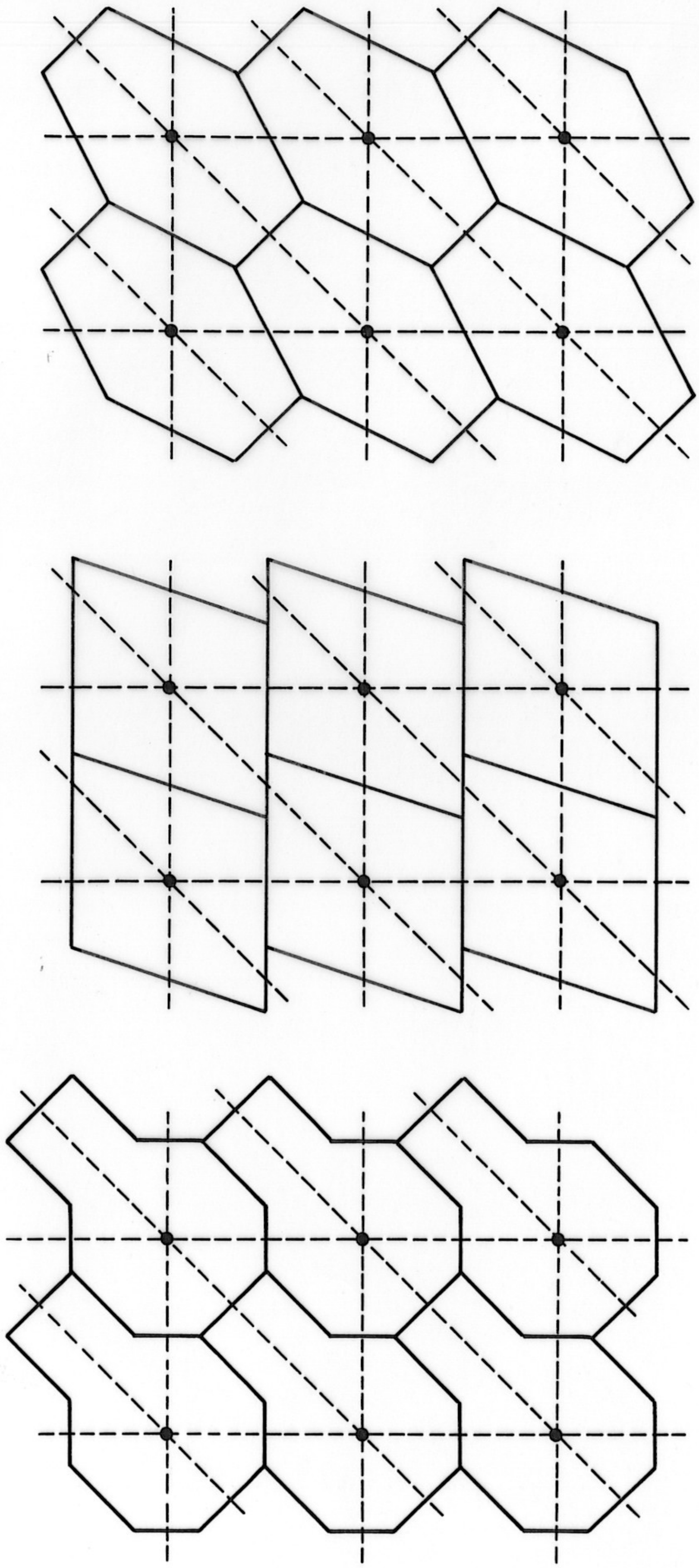
Figure 1-9.



a) Pels in a square grid



b) Pels in a hexagonal grid



a)

b)

c)

Figure 1-10. ------ adjacency relation

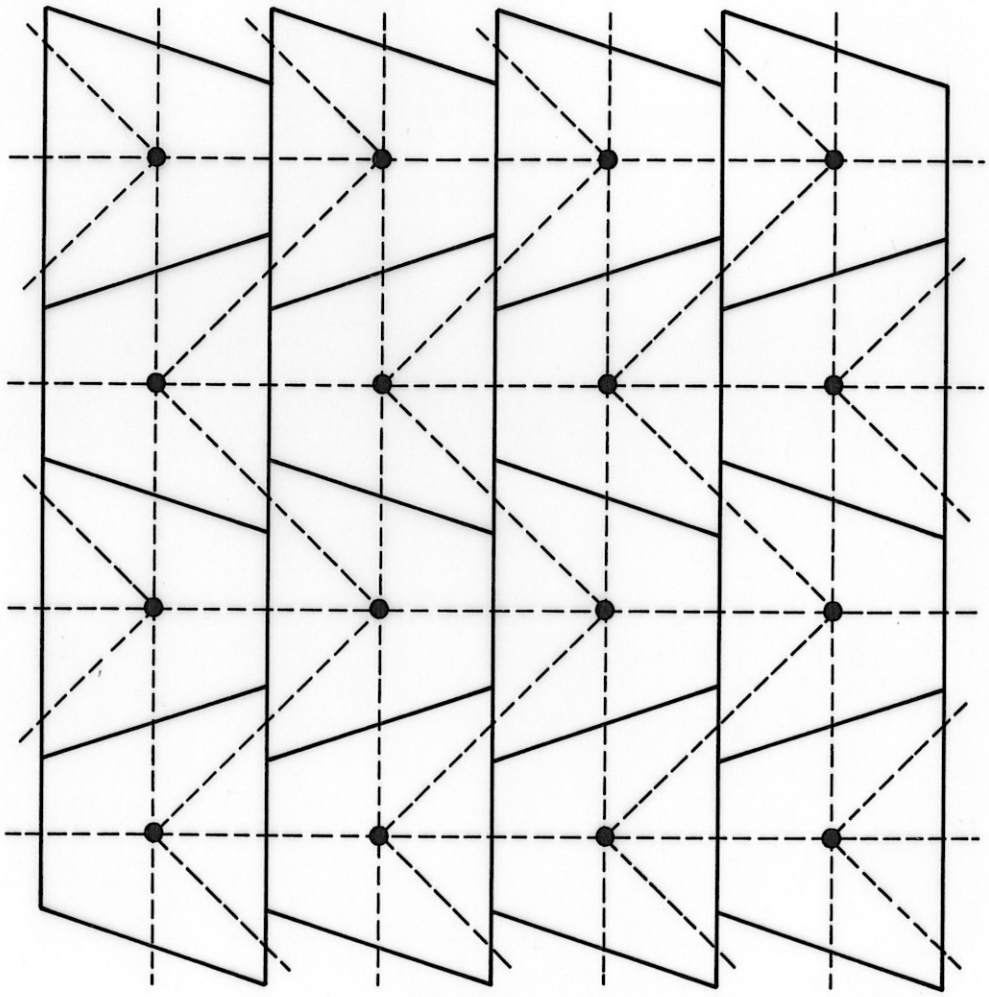


Figure 1-11. ------- adjacency relation

Figure 1-12. Pels at distance m from a given pel m=0,1,2,3.

			3			
		3	2	3		
	3	2	1	2	3	
3	2	1	0	1	2	3
	3	2	1	2	3	
		3	2	3		
			3			

d_4

3	3	3	3	3	3	3
3	2	2	2	2	2	3
3	2	1	1	1	2	3
3	2	1	0	1	2	3
3	2	1	1	1	2	3
3	2	2	2	2	2	3
3	3	3	3	3	3	3

d_8

Figure 1-13. M=36, N=24, U=4, V=2, Y=9, Z=6

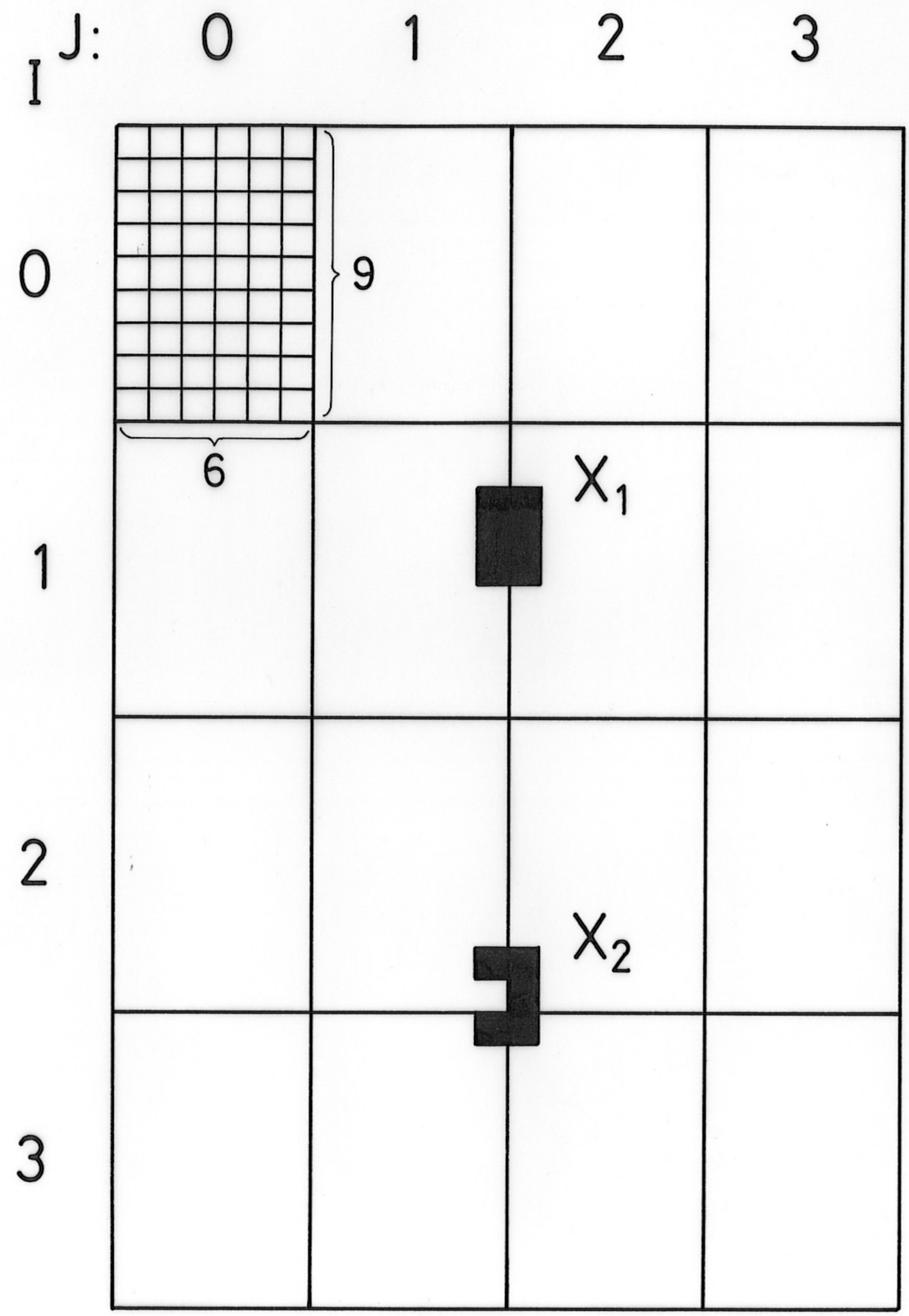


Figure 1-14. Edges and corners of (I,J)

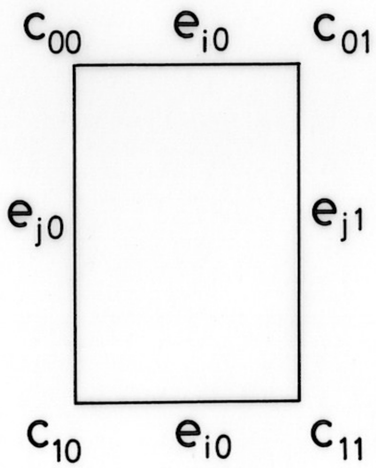


Figure 1-15. $S_8(x_r)$

$k = 4$

a	0	b
1	1	0
0	1	c

$a, b, c \in \{0,1\}$

a	0	c
1	1	1
b	0	d

$a, b, c, d \in \{0,1\}$

$ab = cd = 0$

$k = 8$

0	0	0
1	1	1
0	0	0

1	0	0
0	1	0
0	0	1

0	0	0
1	1	0
0	0	1

0	0	0
0	1	0
1	0	1

Figure 1-16. $L_v(y)$, $\alpha_v(y)$ $(v=0,\ldots,11)$

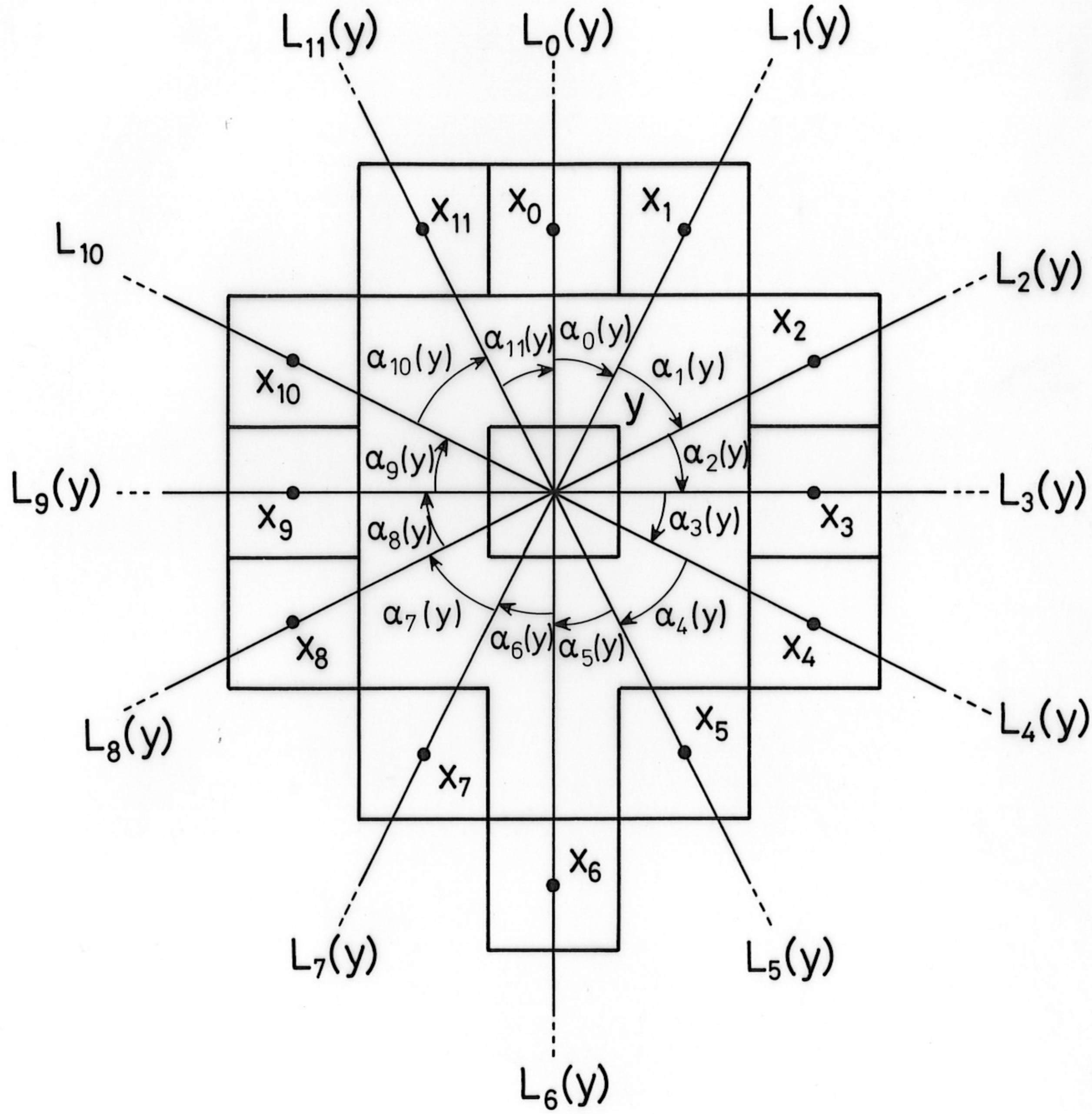


Figure 1-17.

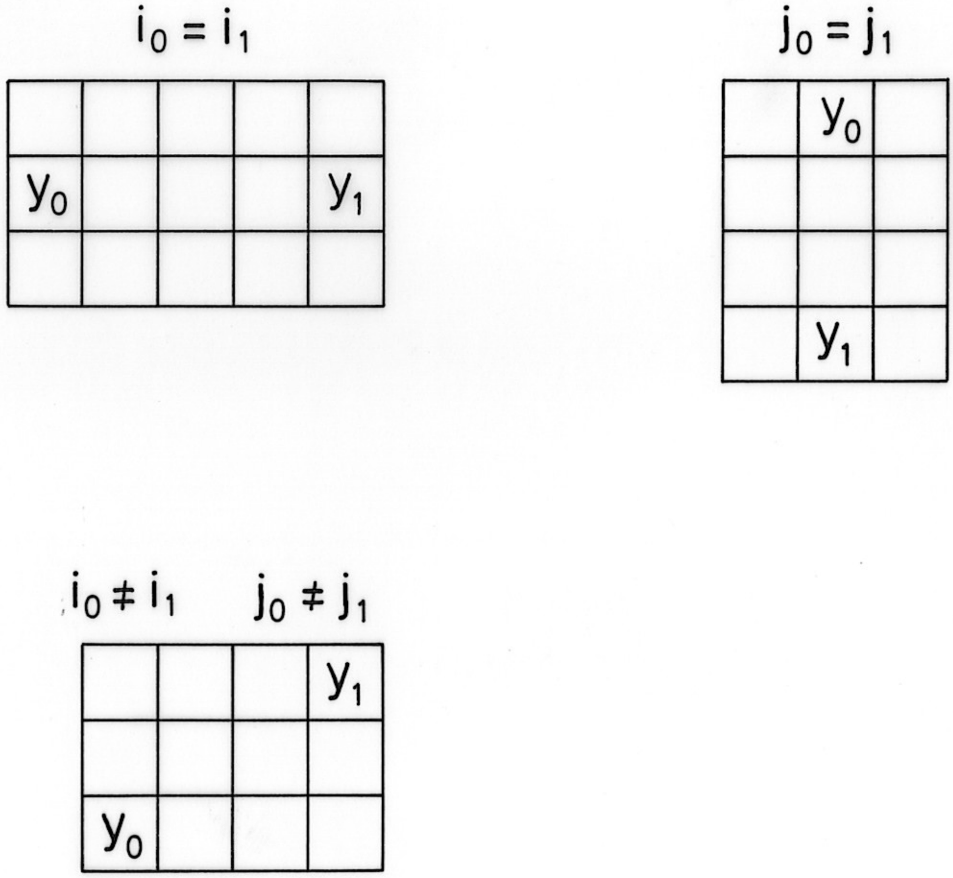
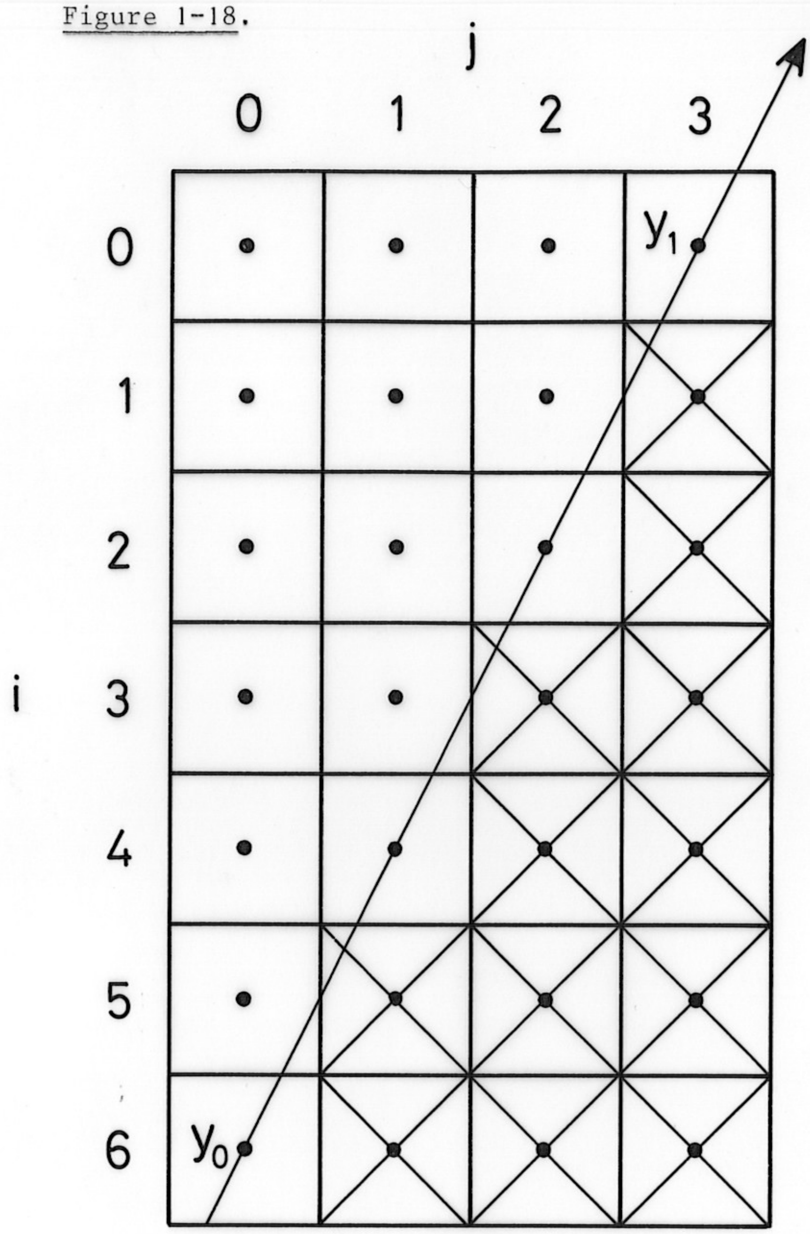


Figure 1-18.



$(i, j) = (6, 0)$

$(i', j') = (0, 3)$

$R_1 \equiv 3(i-6) > -6j$

$\equiv i + 2j - 6 > 0$

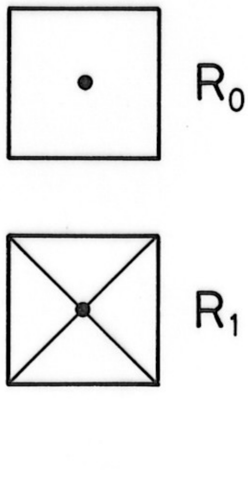


Figure 1-19.

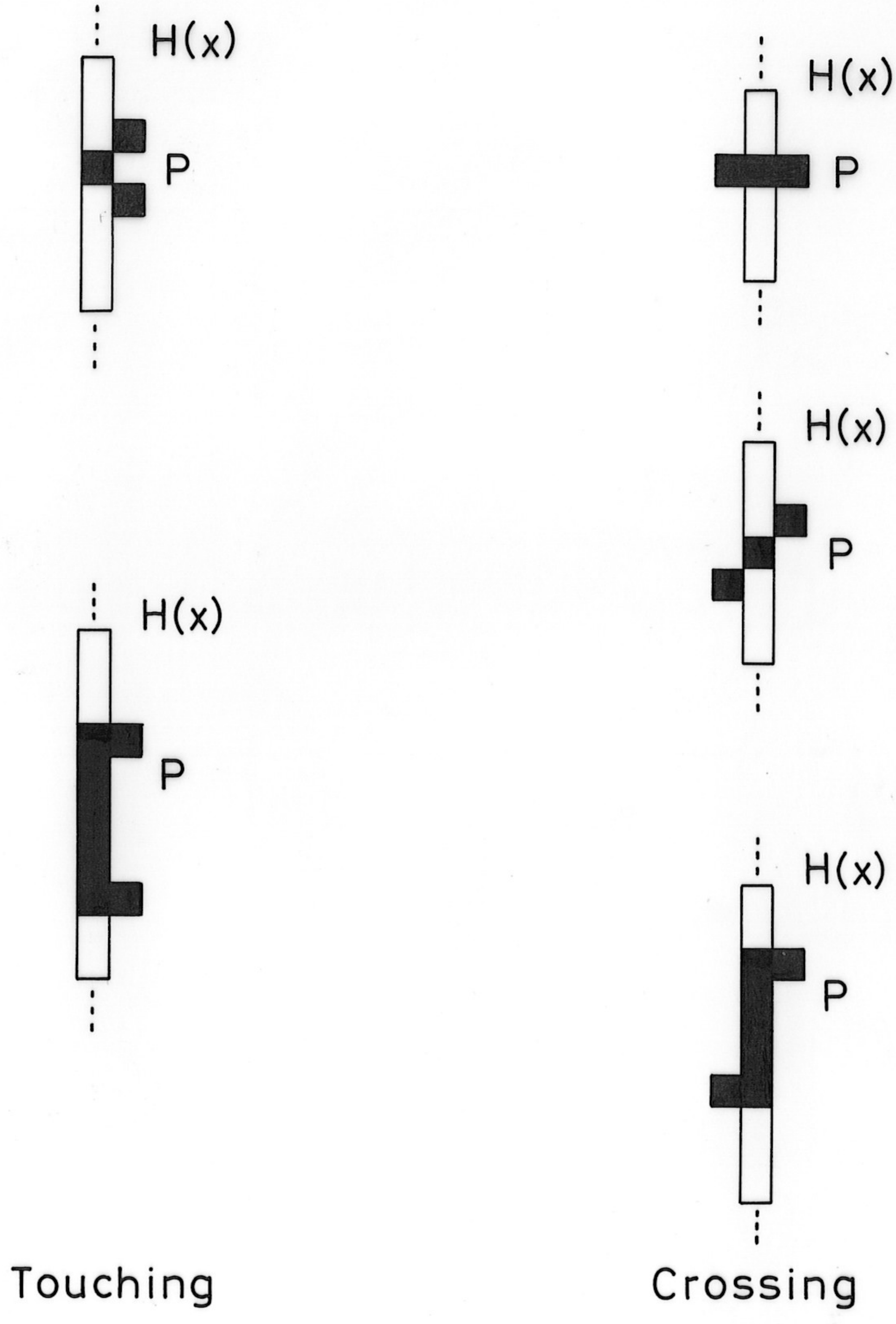


FIGURE 1-20

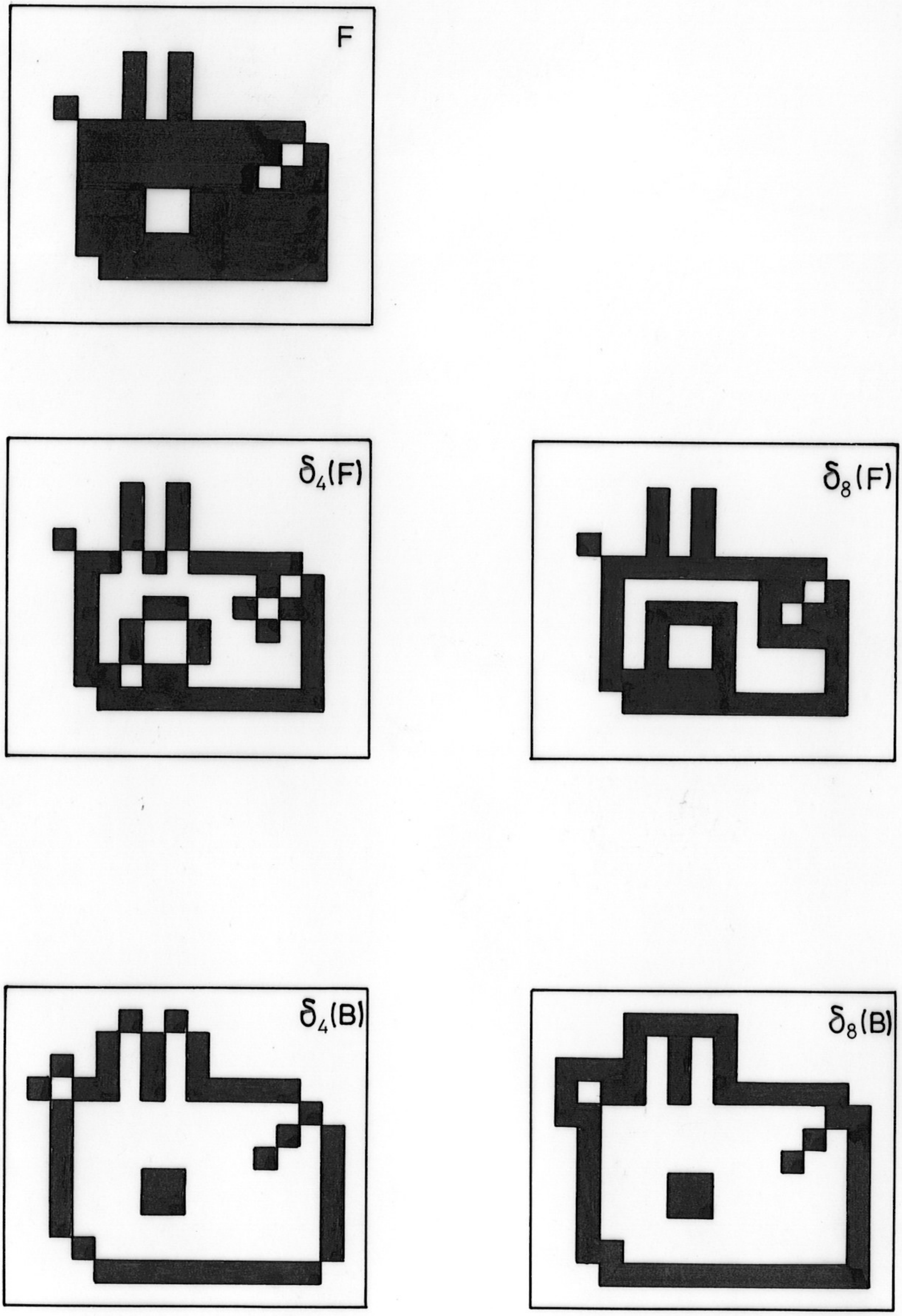


FIGURE 1-21

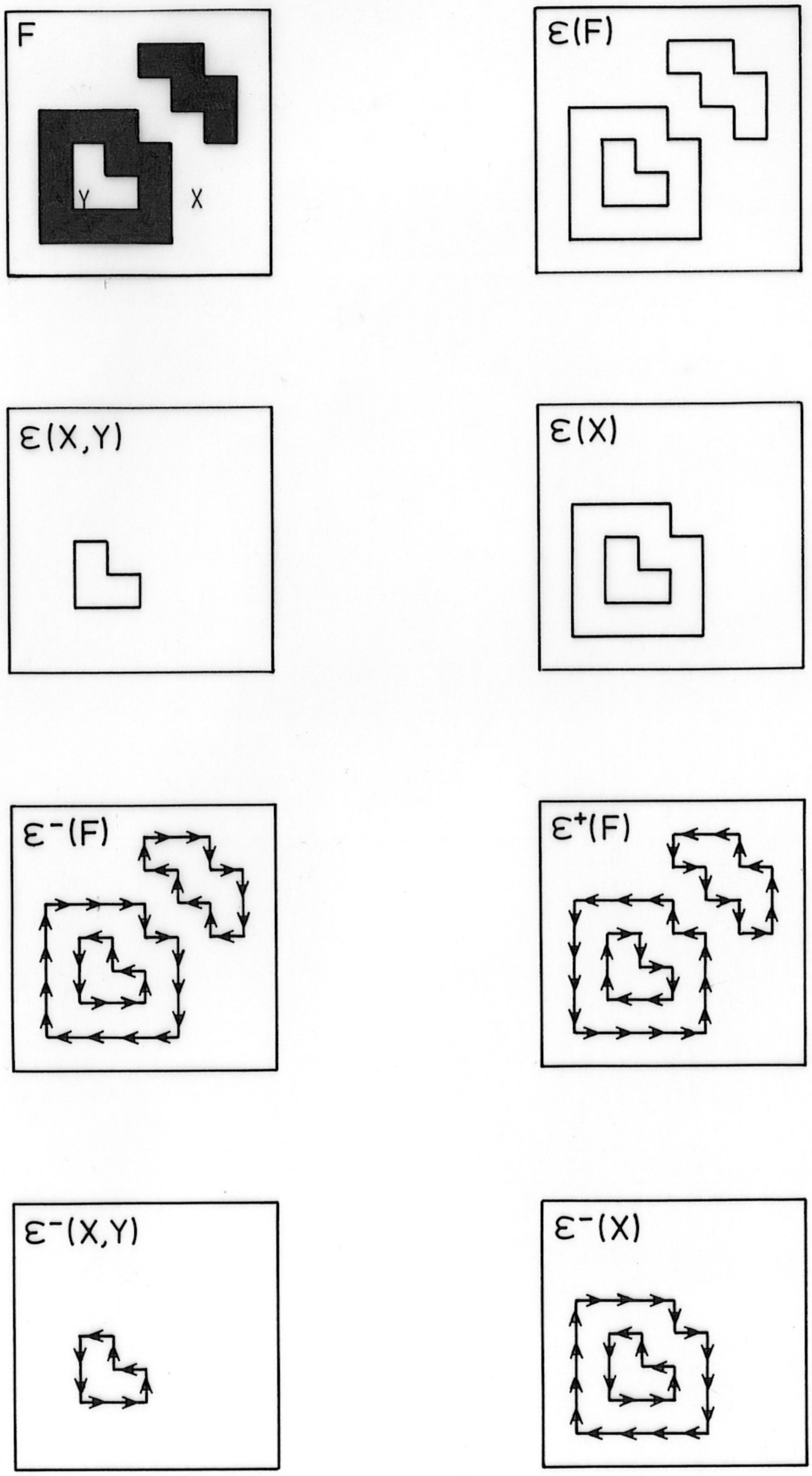

F
Y
X
$\varepsilon(F)$
$\varepsilon(X,Y)$
$\varepsilon(X)$
$\varepsilon^{-}(F)$
$\varepsilon^{+}(F)$
$\varepsilon^{-}(X,Y)$
$\varepsilon^{-}(X)$

FIGURE 1-22

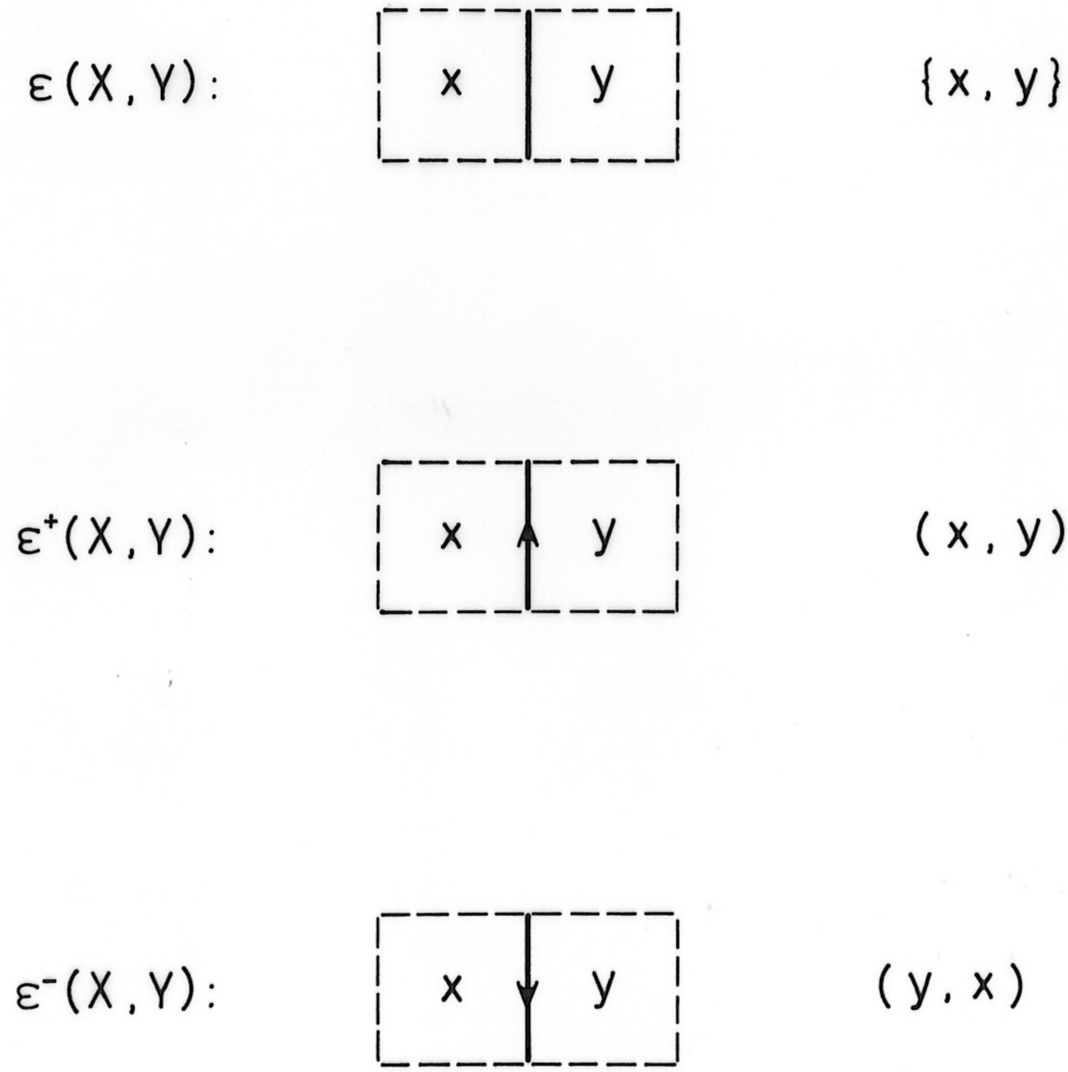


FIGURE 1-23

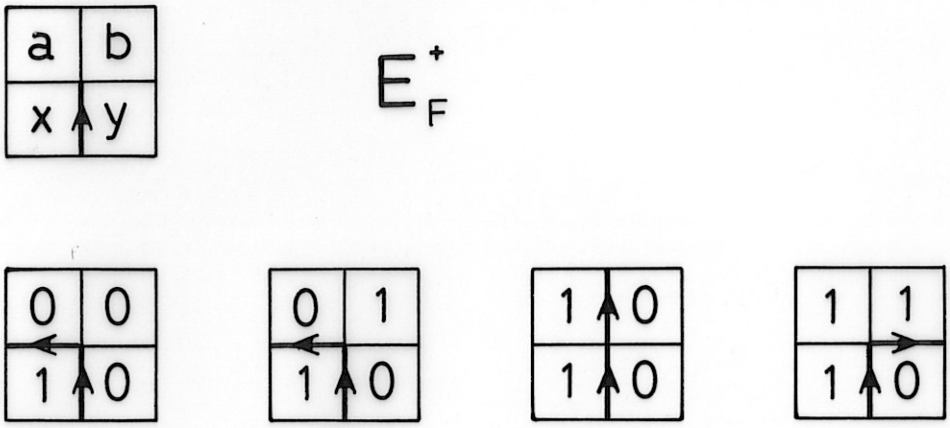


FIGURE 1-24

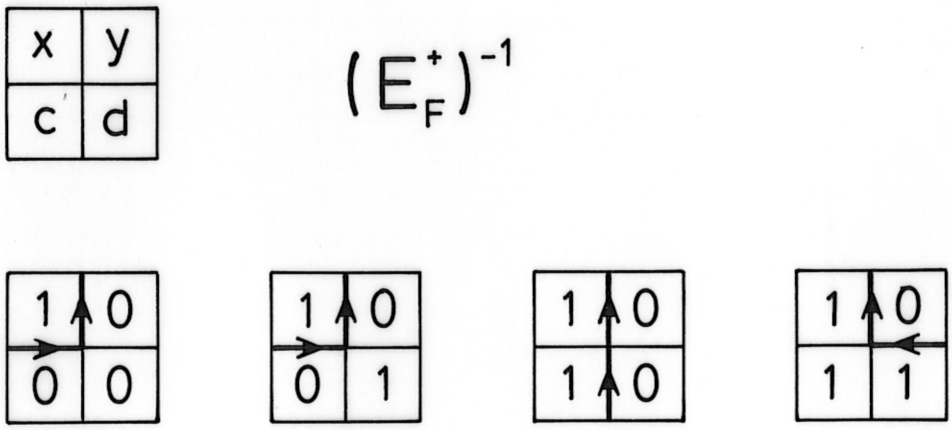


FIGURE 1-25

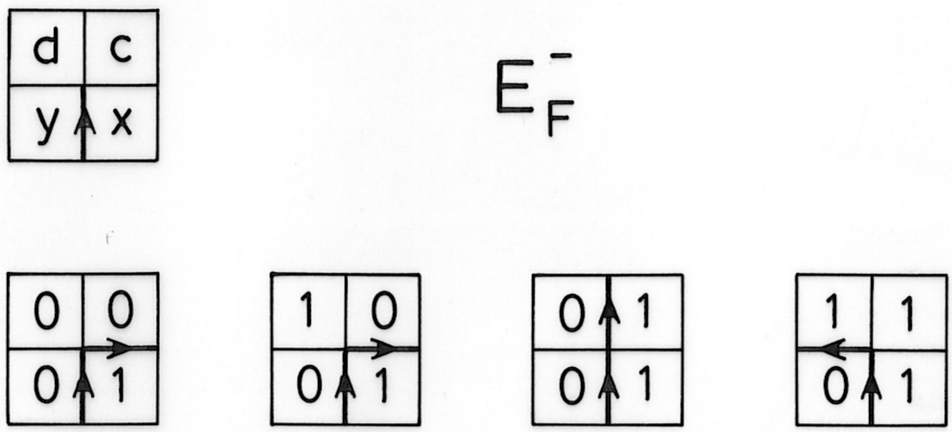


FIGURE 1-26

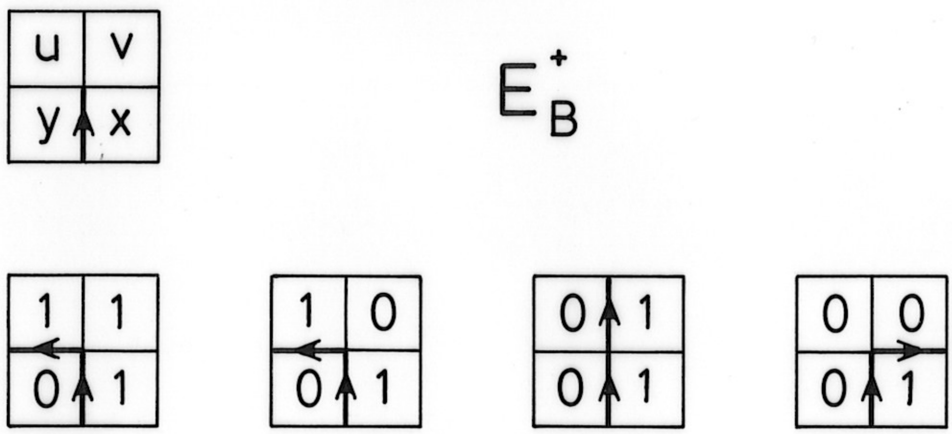


FIGURE 1-27

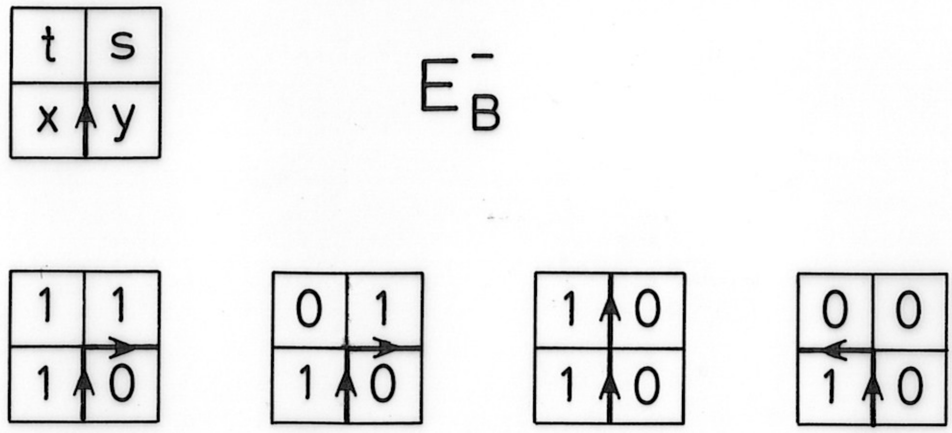


FIGURE 1-28

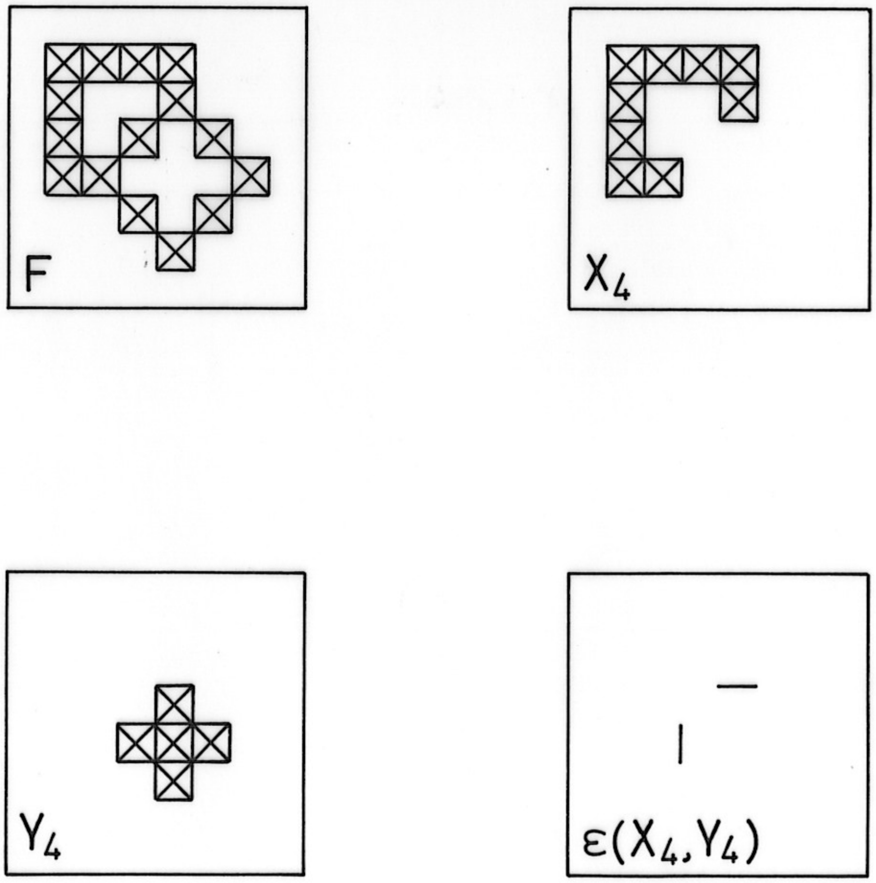
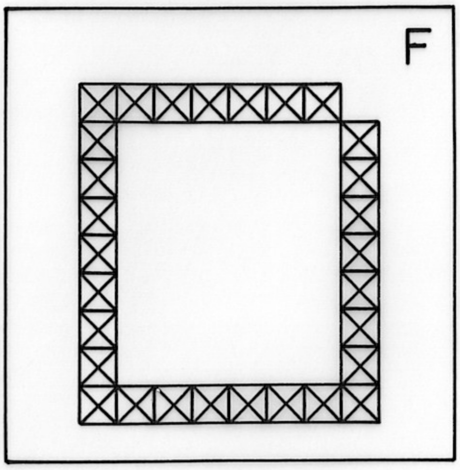


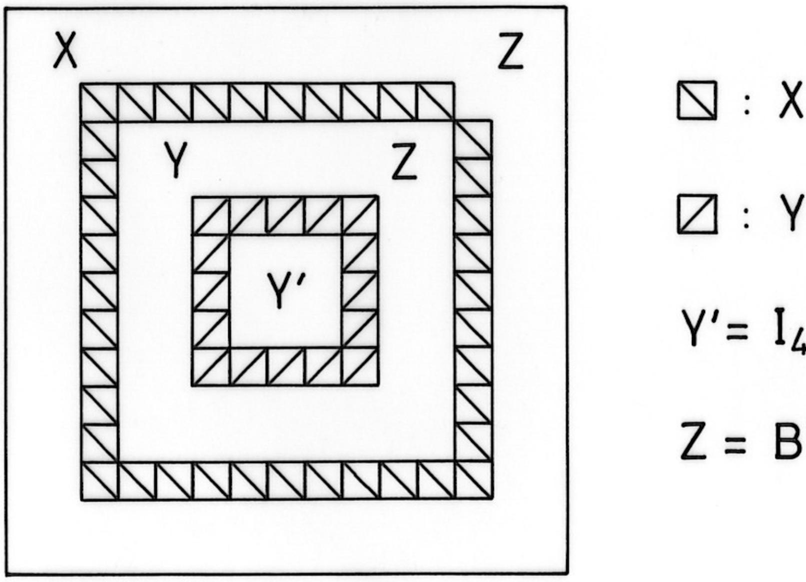
FIGURE 1-29



$X = F$

$Y = B$

FIGURE 1-30



$Y' = I_4(Y)$

$Z = B \setminus Y'$

FIGURE 1-31

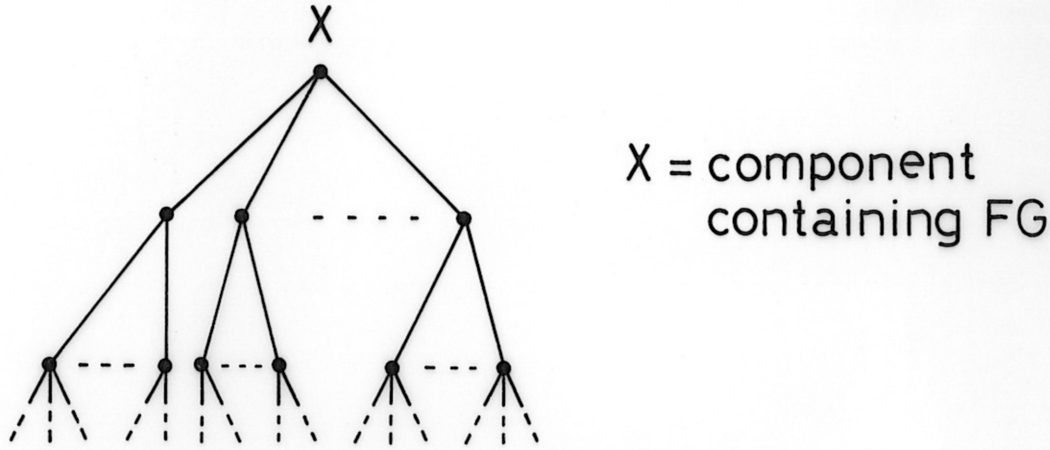


FIGURE 1-32

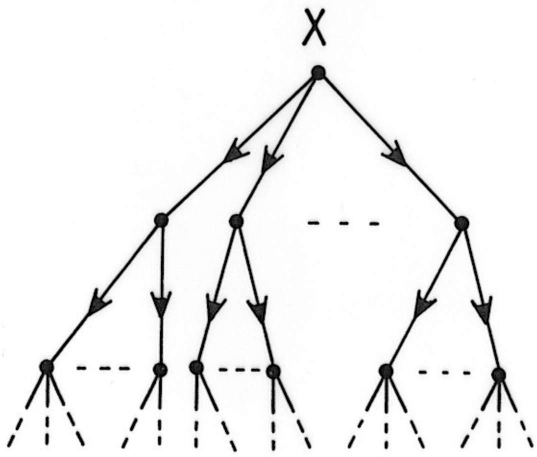
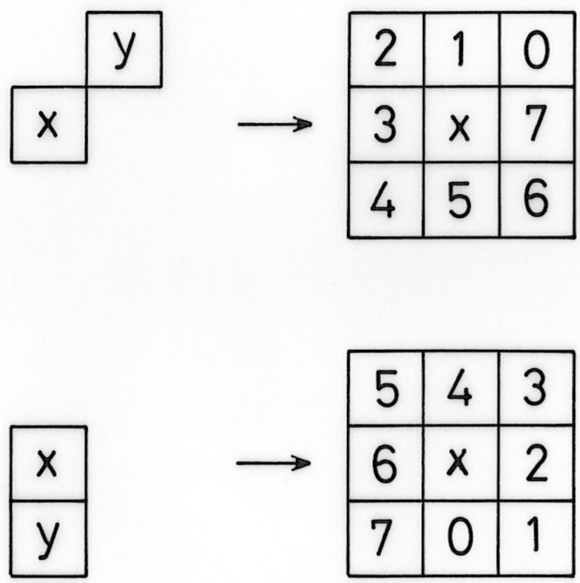


FIGURE 1-33



$\rho_i(x,y)$

FIGURE 1-34

Movement of the window (from [14])

FENETRE 2x2	N°	VECTEUR TANGENT	MOUVEMENT DE LA FENETRE 2x2
	1	—	MODE DE BALAYAGE
	2	—	------
	3	→	INCX
	4	←	DECX
	5	↓	INCY
	6	↑	DECY
	7	↑	DECY
	8	↓	INCY
	9	←	DECX
	10	→	INCX
	11	→	INCX
	12	↑	DECY
	13	↓	INCY
	14	←	DECX
	15	↑ après INCX ↓ après DECX	INCY après INCX DECY après DECX
	16	→ après DECY ← après INCY	INCX après DECY DECX après INCY

reject

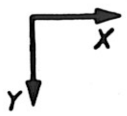


FIGURE 1-35

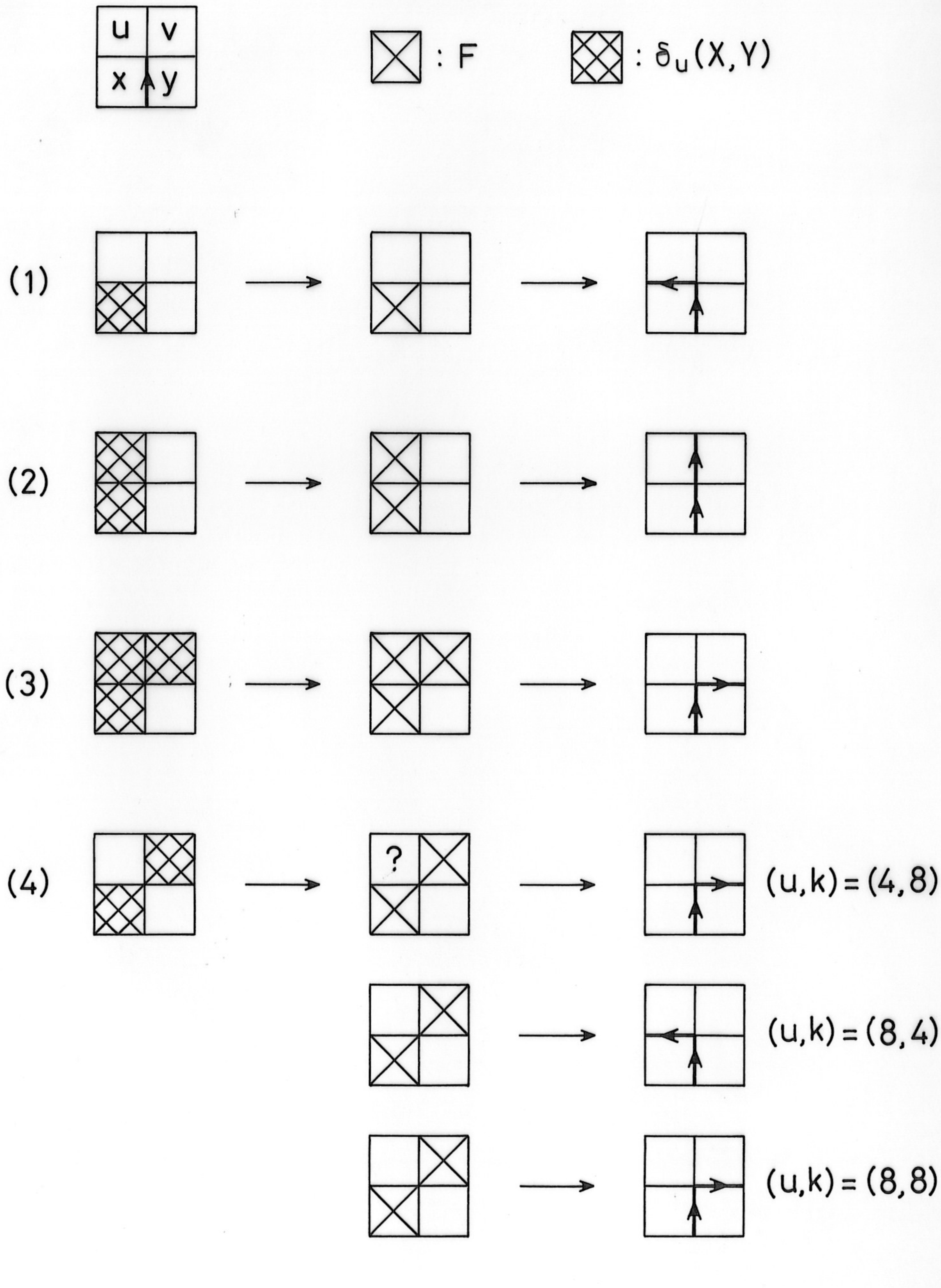


FIGURE 1-36

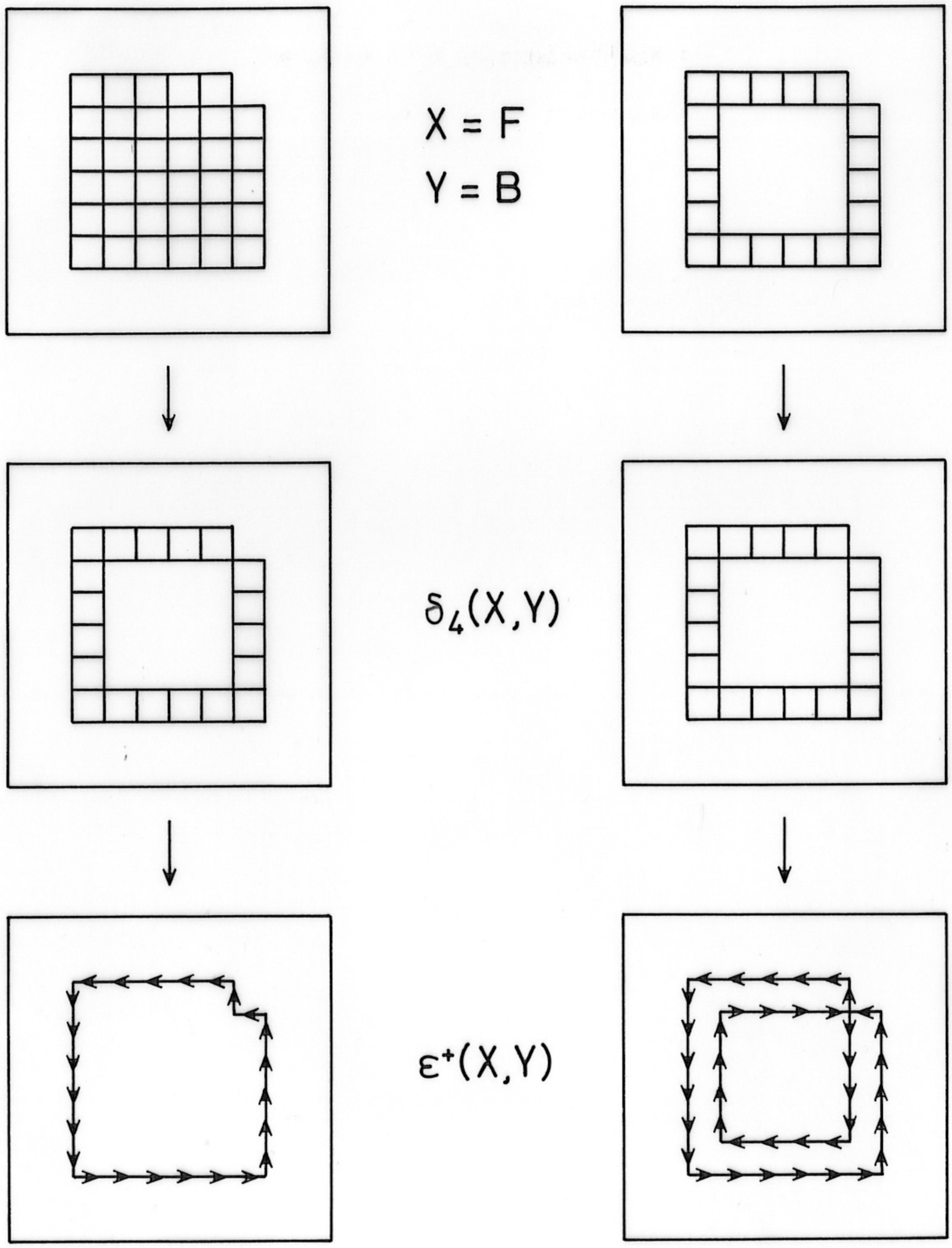
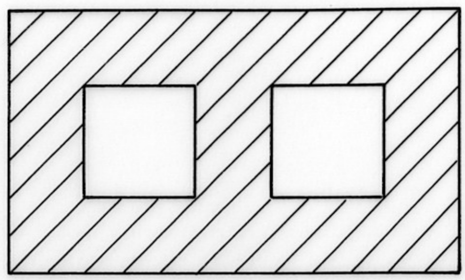
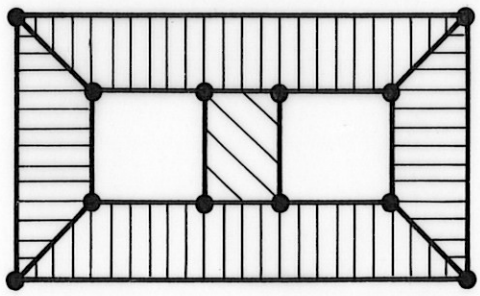


FIGURE 1-37

The genus of a bounded surface :



$\mathcal{S}$



Decomposition of $\mathcal{S}$

$v = 12 \quad e = 18 \quad f = 5$

$g(\mathcal{S}) = 12 - 18 + 5 = -1$

FIGURE 1-38

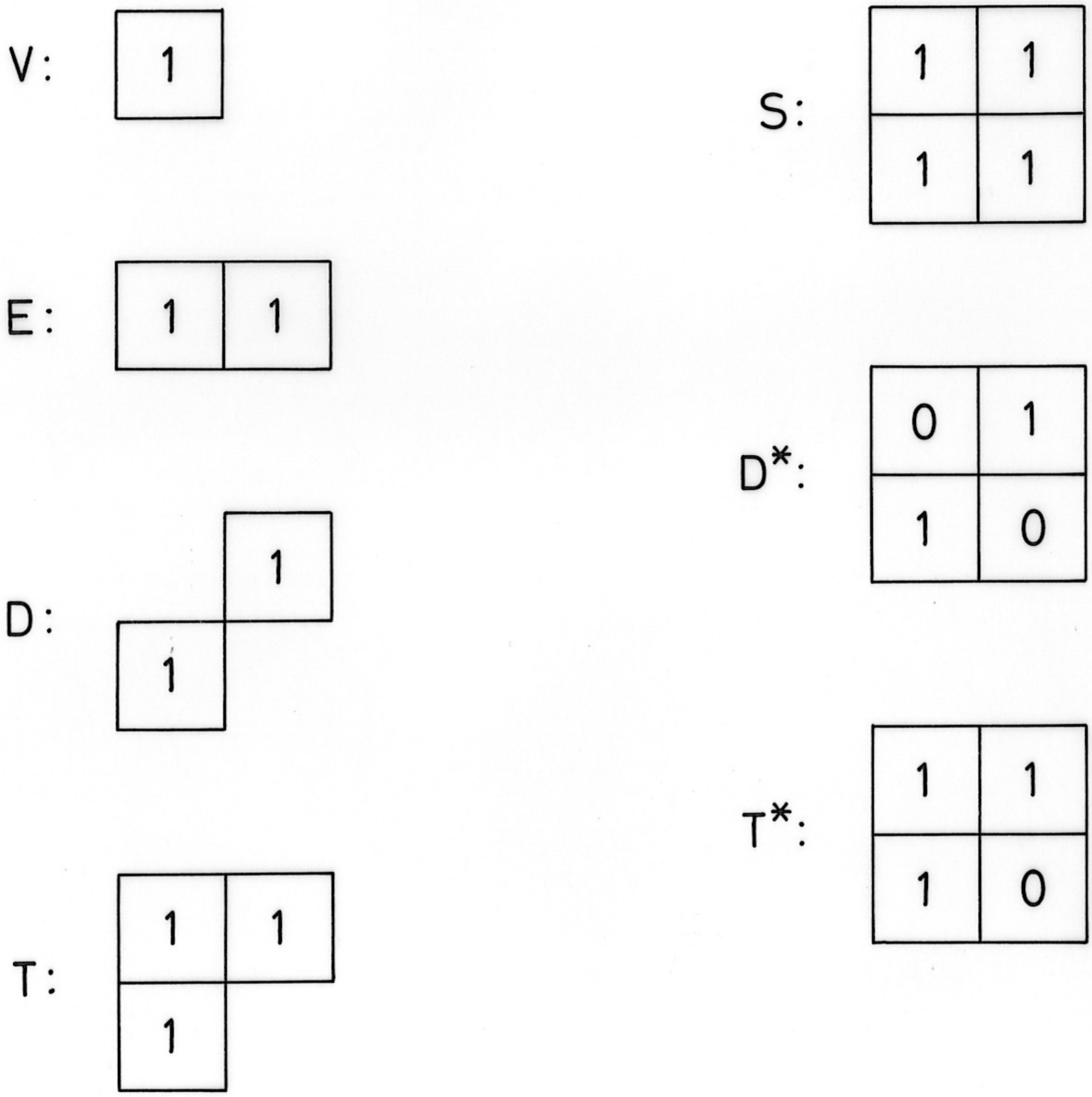


FIGURE 1-39 k=4

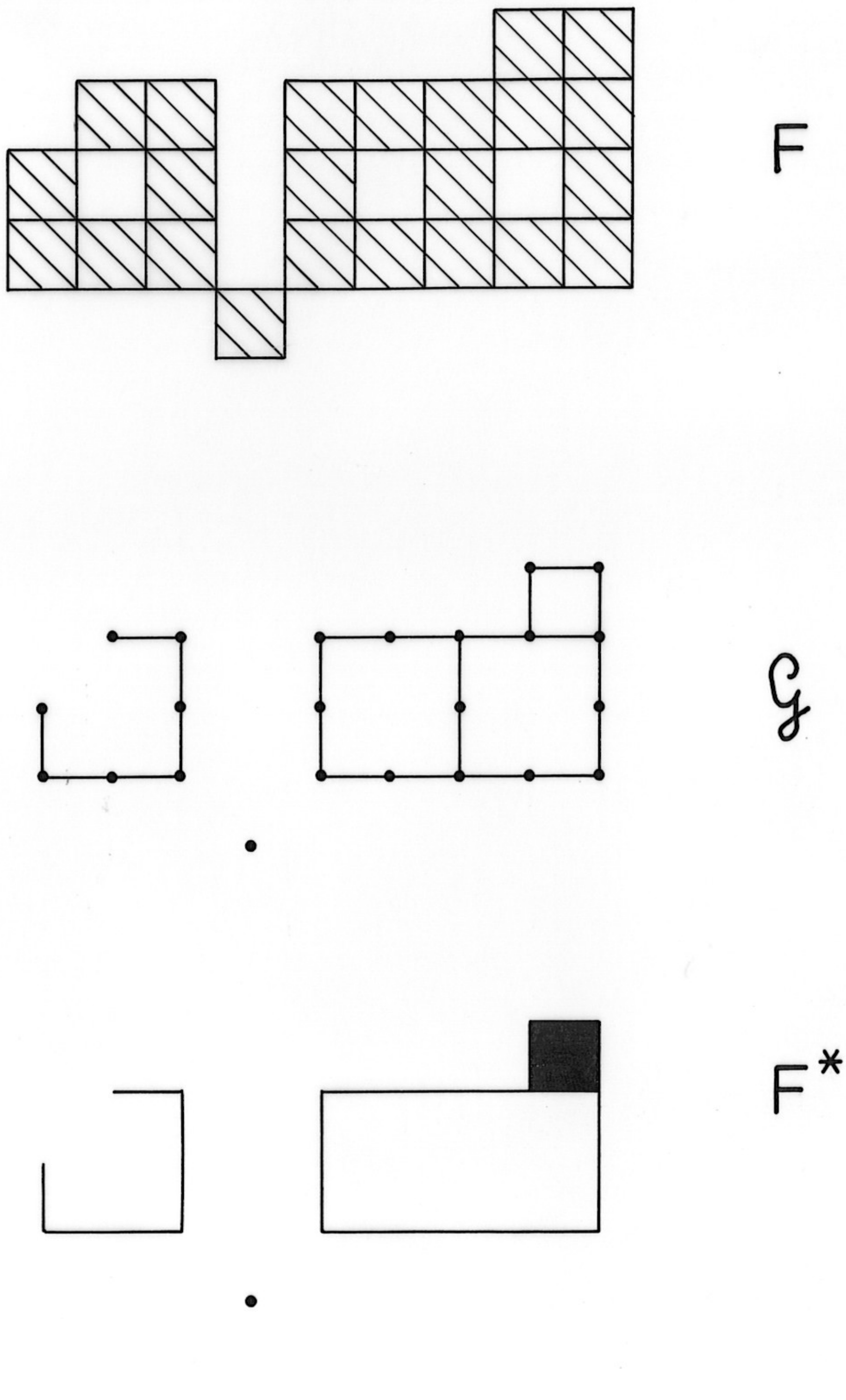
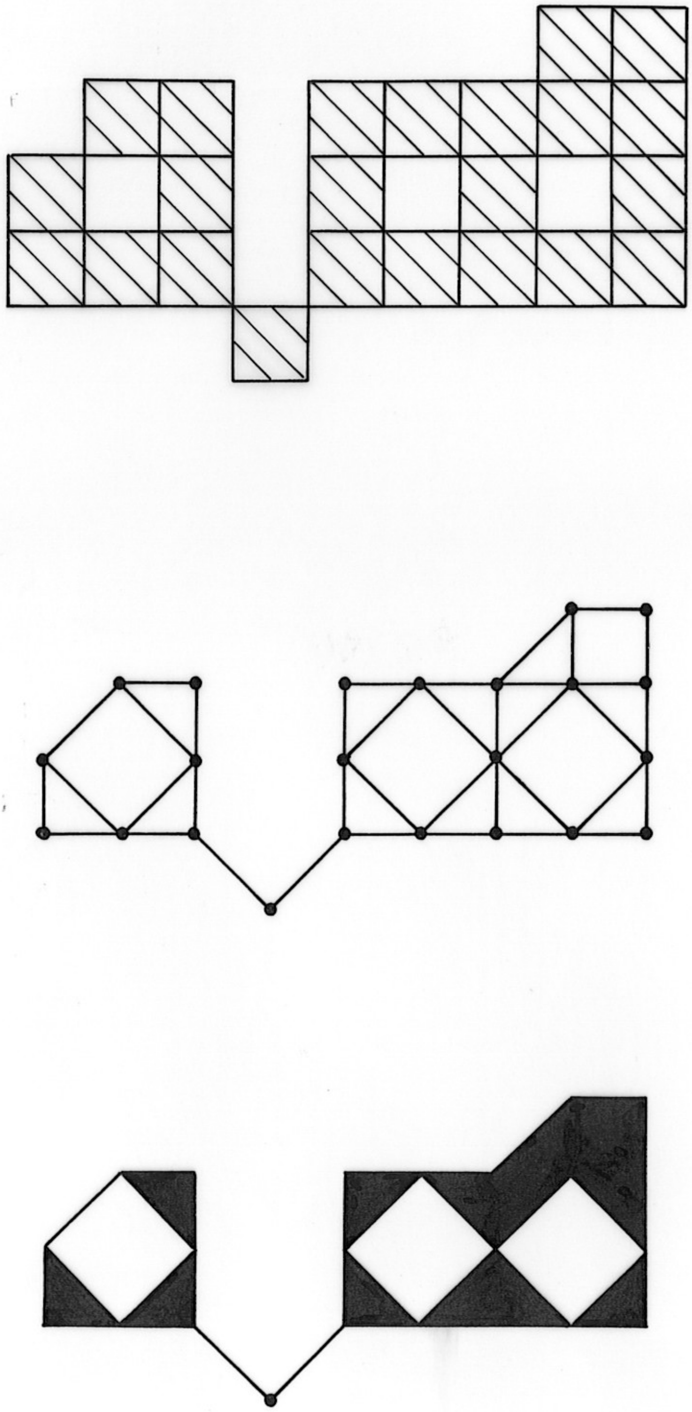


FIGURE 1-40 k=8



F

𝒢

F^*

FIGURE 1-41

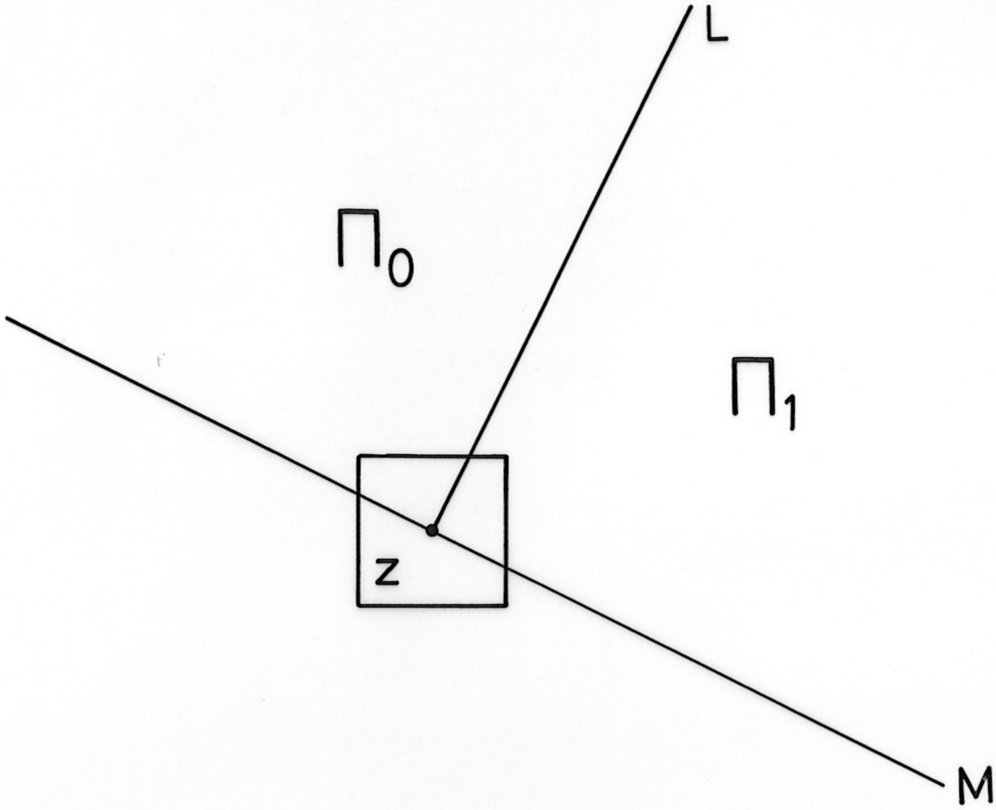


FIGURE 1-42

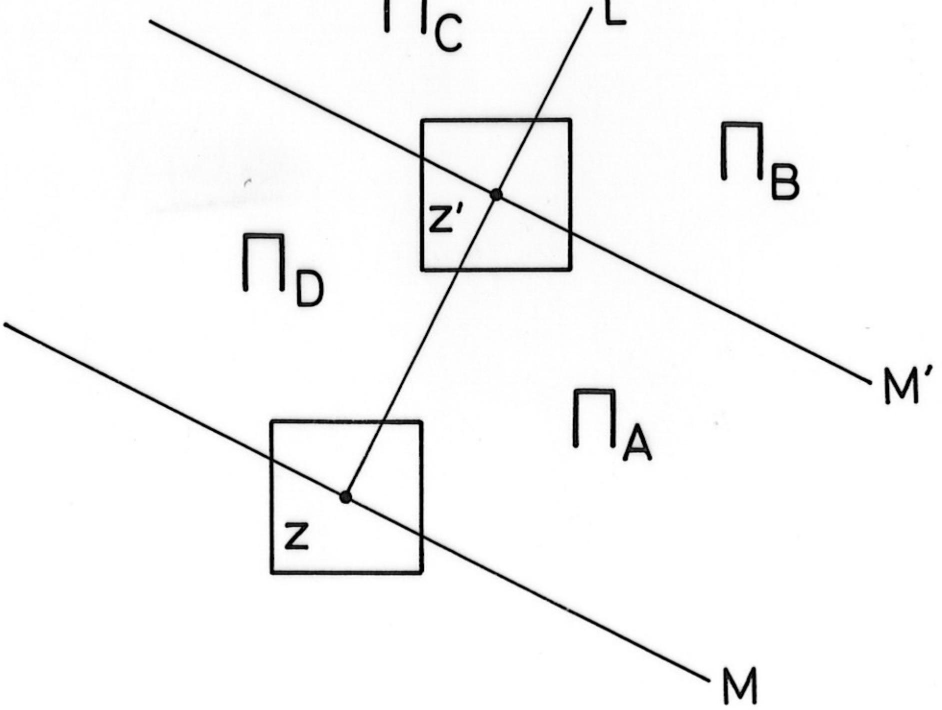


FIGURE 1-43

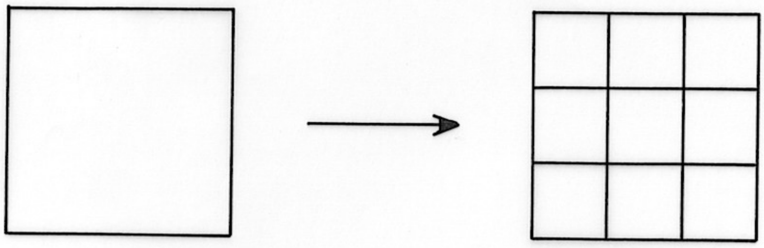


FIGURE 1-44

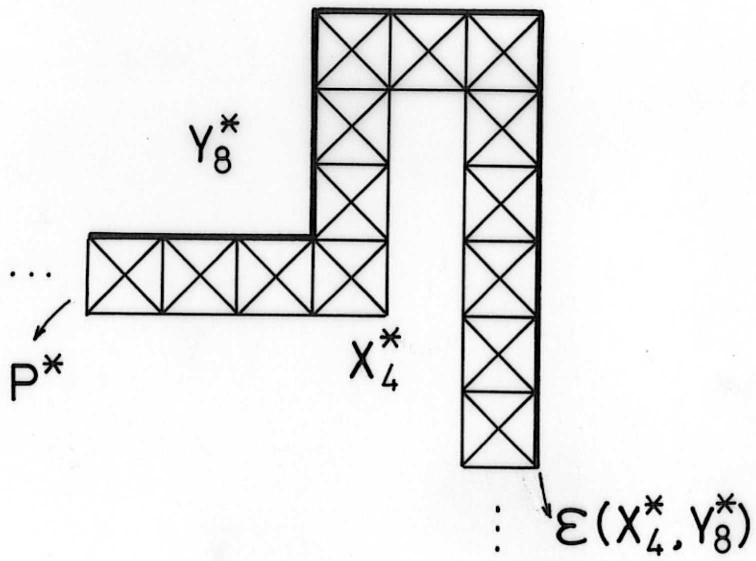


FIGURE 1-45

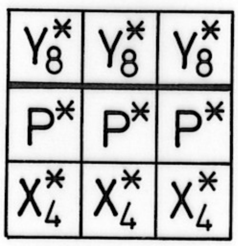


FIGURE 1-46

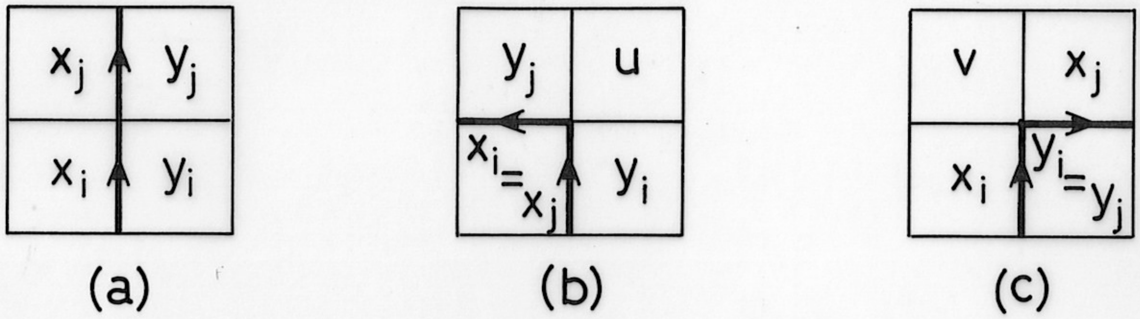


FIGURE 1-47

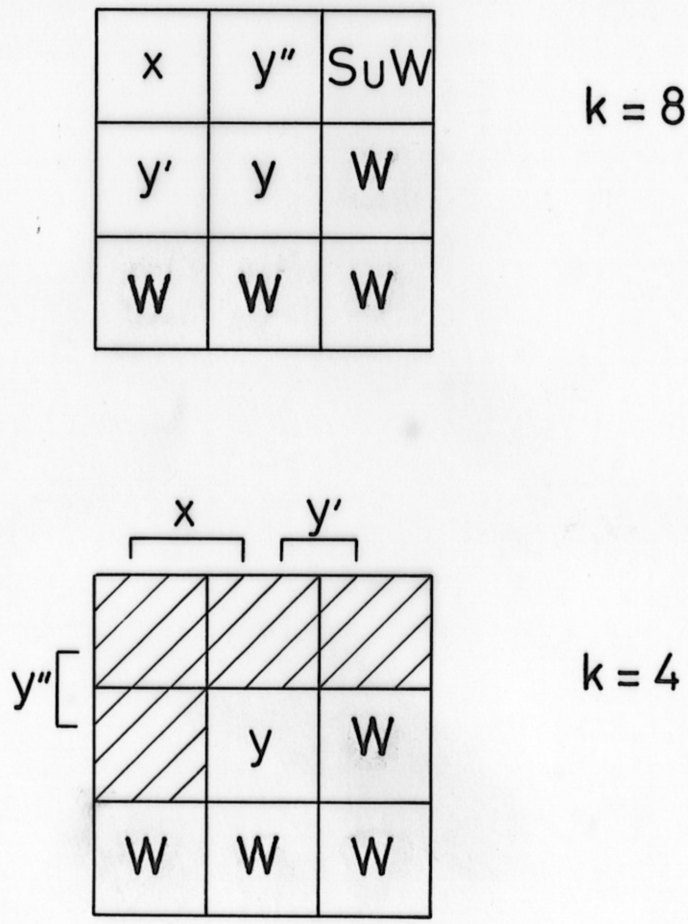


FIGURE 1-48

a)

	y*	x	y''
u	y'	y	W
z	W	W	W

b)

	f	c	
x	y*	y''	d
y'	y	W	g
W	W	W	