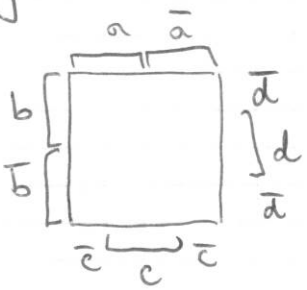
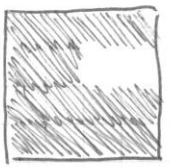
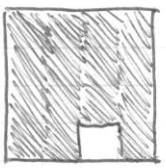
$f(abcd) = (a+\bar{b}+\bar{d})(a+b+\bar{c}+d)(\bar{a}+\bar{b}+\bar{c}+d)$

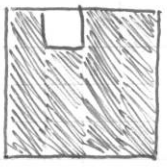




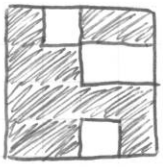
$a+\bar{b}+\bar{d}$



$a+b+\bar{c}+d$



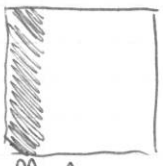
$\bar{a}+\bar{b}+\bar{c}+d$

f 

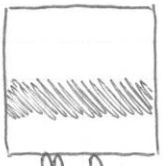
La forme canonique disjonctive de f est

$f(abcd) = a\bar{b}\bar{c}\bar{d} + \bar{a}bc\bar{d} + \bar{a}b\bar{c}\bar{d} + ab\bar{c}d + abcd +$
$a\bar{b}\bar{c}d + a\bar{b}cd + \bar{a}\bar{b}cd + \bar{a}\bar{b}\bar{c}d + a\bar{b}\bar{c}\bar{d} +$
$a\bar{b}c\bar{d} + \bar{a}\bar{b}\bar{c}\bar{d}$

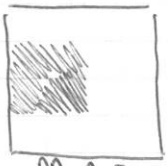
Les grosses cellules incluses dans le diagramme de Karnaugh de f sont :



cellule 1
$a\bar{c}$



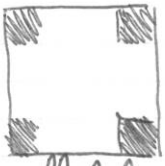
cellule 2
$\bar{b}d$



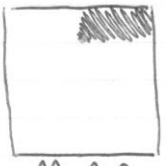
cellule 3
ad

cellule 4
$a\bar{b}$

cellule 5
$b\bar{c}$



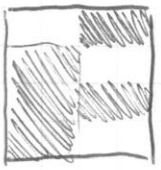
cellule 6
$\bar{c}\bar{d}$



cellule 7
$\bar{a}b\bar{d}$

On cherche les cases qui n'appartiennent qu'à une seule grosse cellule, et on garde les cellules en question. Ce sont les cellules 7 _ 3 _ 2 _ 4

On les indique sur le diagramme auxiliaire :



Il manque 2 cases pour obtenir le diagramme de f : elles sont obtenues en prenant la cellule 6.

$$f = \bar{a}\, b\, \bar{d} + a d + \bar{b}\, d + a \bar{b} + \bar{c}\, \bar{d}$$