Question 1

$$f(x,y) = x + y$$

On cherche g tels que $f(x,y) \times g(x,y) = 0 \quad \forall x,y$

Réponse :

x	y	$f(x,y)$	g
0	0	0	1 ou 0
0	1	1	0
1	0	1	0
1	1	1	0

il y a 2 fonctions booléennes possibles pour g :

$$g = 0$$

ou $g = \bar{x}\,\bar{y}$

Question 2 :

$$A = \overline{xy + \bar{x} z + \bar{y} z}$$

$$\overset{DM}{=} (\bar{x} + \bar{y}) \times \underbrace{(x + \bar{z})(y + \bar{z})}$$

$$= (\bar{x} + \bar{y})(\bar{z} + xy) \qquad \text{dist } + / \times$$

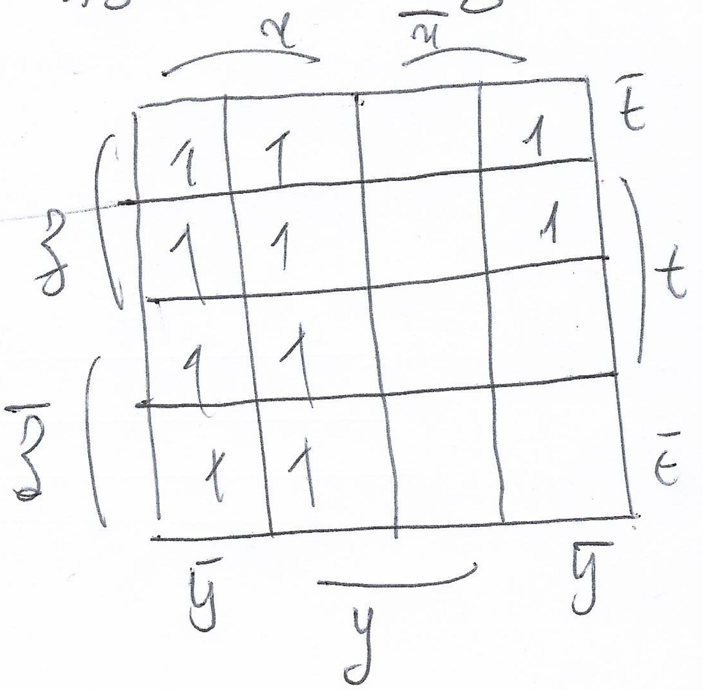
$$= \bar{x}\bar{z} + \cancel{\bar{x} xy} + \bar{y}\bar{z} + \cancel{\bar{y} xy} \qquad \text{dist } \times / +$$

$$= \boxed{\bar{x}\bar{z} + \bar{y}\bar{z}}$$

$$= \boxed{\bar{x} y \bar{z} + \bar{x}\bar{y}\bar{z} + x\bar{y}\bar{z} + \cancel{\bar{x}\bar{y}\bar{z}}}$$

Question 3 :

$$f(x,y,z,t) = x + \bar{y}z$$



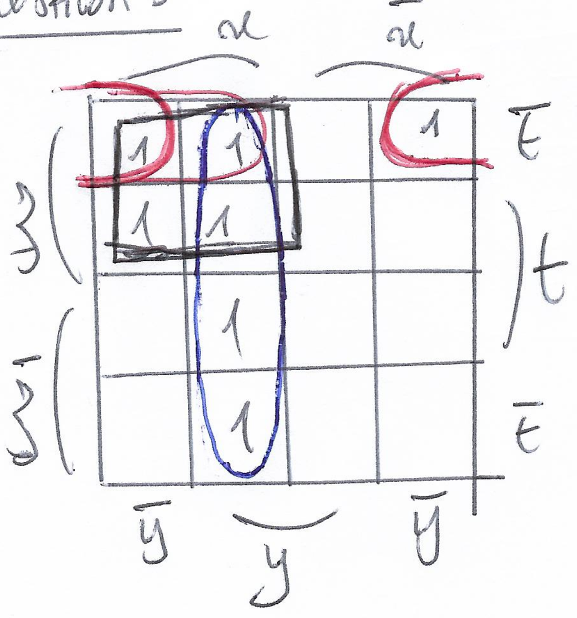
10 monomes complets dans la forme canonique disjonctive de f

Question 4

il y a $C_8^2 = \binom{8}{2}$ façons de choisir 2 triplets parmi 8 (combinaisons)

$$C_8^2 = \binom{8}{2} = \frac{8 \times 7}{2 \times 1} = 28$$

Question 5



$$\boxed{f = xy + xz + \bar{y}z\bar{t}}$$