

EXO 8:

$$\overline{a} = \overline{aa} = a \uparrow a \text{ Propriété } a.a=a$$

$$a \uparrow b = \overline{a.b}$$

$$\begin{aligned} a.b &= a.\bar{b} \text{ on prend } \overline{ab} = x \\ &= \bar{x} = \overline{xx} \text{ on remplace } x \text{ par } \overline{ab} \\ &= \overline{\overline{ab}.\overline{ab}} = (a \uparrow b) \uparrow (a \uparrow b) \end{aligned}$$

$$\begin{aligned} a + b &= a + \bar{b} = \overline{\overline{a.b}} \\ &= \overline{aa.bb} \\ &= (a \uparrow a) \uparrow (b \uparrow b) \\ a \oplus b &= a\bar{b} + \bar{a}b \\ &= \overline{a\bar{b} + \bar{a}b} \\ &= \overline{(\bar{a} + b)(a + \bar{b})} \end{aligned}$$