

3ag 1.

$$f(x_1, x_2) = (x_1 \overline{x_2} + x_2)(x_1 + \overline{x_2}) =$$

$$= x_1 \overline{x_2} x_1 + x_1 \overline{x_2} \overline{x_2} + x_1 x_2 + 0 =$$

$$= x_1 x_2 + \cancel{x_1 \overline{x_2}} + x_1 x_2 + 0 =$$

$$x_1 \overline{x_2} + x_1 x_2 = x_1 (\overline{x_2} + x_2) = x_1$$

$$\begin{array}{l} \overline{x_2} x_2 = \begin{array}{l} \overline{1} \cdot 1 = 0 \cdot 0 = 0 \\ 0 \cdot \overline{0} = 1 \cdot 1 = 1 \end{array} \quad \overline{0} = 1 \end{array}$$



zag 2

$$f(x_0, x_1, x_2) = \overline{x_1 \cdot \overline{x_0} + x_2} + \overline{x_0 \cdot \overline{x_2}}$$

$$= \overline{x_1 \cdot \overline{x_0}} \cdot \overline{x_2} + \overline{x_0 \cdot \overline{x_2}}$$

$$= (\overline{x_1} + x_0) \cdot \overline{x_2} + \overline{x_0 \cdot \overline{x_2}}$$

$$= \overline{x_1} \cdot \overline{x_2} + \overline{x_0 \cdot \overline{x_2}} + \cancel{x_0 \cdot \overline{x_2}} + x_2 =$$

$$= \overline{x_1} \cdot \overline{x_2} + \overline{x_0 \cdot \overline{x_2}}$$

zag 3

$$f(A, B, C, D) = \overline{A+B+C+D} + \overline{\overline{A} \cdot \overline{B} + \overline{C} + D}$$

$$= \overline{A} \cdot \overline{B} \cdot \overline{C} \cdot \overline{D} + (\overline{\overline{A} \cdot \overline{B}} \cdot (\overline{\overline{C} + D})) =$$

$$= \overline{A} \cdot \overline{B} \cdot \overline{C} \cdot \overline{D} + (A+B)(\overline{C} + D)$$