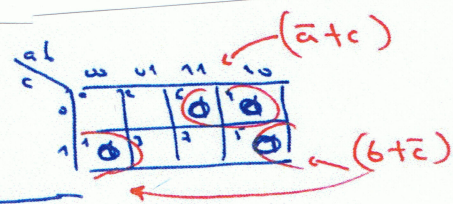
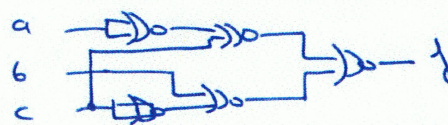


a) $f(a, b, c) = \sum_3(0, 2, 3, 7) = \prod_8(1, 4, 5, 6)$



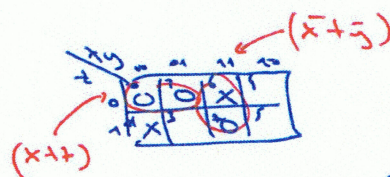
$$f = (\bar{a} + b)(b + \bar{c}) = \overline{(a + \bar{b})} \cdot \overline{(b + c)} = \overline{a + b + \bar{b} + c} =$$

$$= \overline{a + b + c}$$

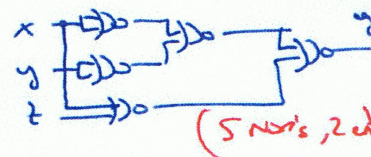


(5 NOR's, 2 el)

b) $g(x, y, z) = \sum_3(0, 2, 7) \cdot \phi(1, 6)$

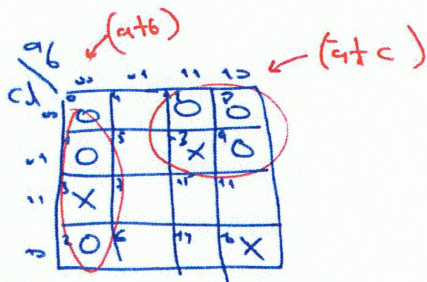


$$g(x, y, z) = (x + z)(\bar{x} + y) = \overline{x + \bar{z}} \cdot \overline{x + \bar{y}} = \overline{x + z + x + \bar{y}} =$$

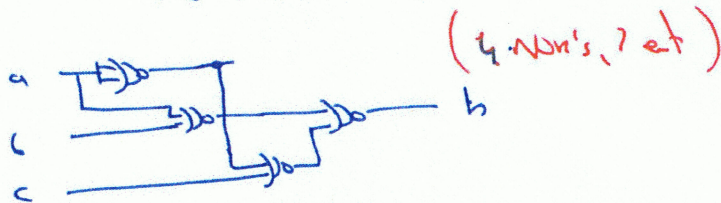


(5 NOR's, 2 el)

c) $h(a, b, c, d) = \prod_4(0, 1, 2, 8, 9, 11) \cdot \phi(3, 10, 13) = (a + b)(\bar{a} + c) = \overline{\overline{a + b}} =$



$$= \overline{a + b} + \overline{a + c} + c$$



(4 NOR's, 7 el)