

$x_1 x_2$
 $x_3 x_4$

	00	01	11	10
00			1	1
01			1	1
11	1	1	1	
10	1	1		

The Karnaugh map for function f_2 is a 4x4 grid. The columns are labeled $x_1 x_2$ (00, 01, 11, 10) and the rows are labeled $x_3 x_4$ (00, 01, 11, 10). The map contains 1s in the following cells: (00, 11), (00, 10), (01, 11), (01, 10), (11, 00), (11, 01), (11, 11), (10, 00), and (10, 01). There are three prime implicants highlighted in pink: a 2x2 square covering (00, 11), (00, 10), (01, 11), and (01, 10); a 2x2 square covering (11, 00), (11, 01), (10, 00), and (10, 01); and a horizontal 1x4 bar covering (11, 00), (11, 01), (10, 00), and (10, 01). A single minterm (11, 11) is circled in black.

(b) Function f_2