

Homework Solutions - Section 10.1

5.

$$(a) \{a,b,c\} = \{a\} \cup \{b\} \cup \{c\}$$

$$(b) (1,0,1,1,0) = (1,0,0,0,0) \vee (0,0,1,0,0) \vee (0,0,0,1,0)$$

$$(c) f = f_a \vee f_c \vee f_d$$

where

$$f_a \text{ maps } a \rightarrow 1$$

$$f_c \text{ maps } c \rightarrow 1$$

$$f_d \text{ maps } d \rightarrow 1$$

7.

(a) the atoms are given by the four right columns of the table

x	y	a	b	c	d
0	0	1	0	0	1
0	1	0	1	0	0
1	0	0	0	1	0
1	1	0	0	0	1

(b) using the notation of part (a)

$$g = c \vee d$$

(c) $h = a \vee b \vee d$