

QUIZ 1

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Question 1

a) ~~$A = \{m+n-5 \mid m=2, \text{ for } i=1,2,3\}$~~

$$A = (3, 8, 13)$$

$$B = (7, 13)$$

$$C = (8, 13)$$

$$D = (3, 9, 15)$$

$$A \cup B \cup C \cup D = \{3, 7, 8, 9, 13, 15\}$$

b) $(A \cap B) \times (C \times D)$

$$A \cap B = \{13\}$$

$$C \times D = \{(8, 3), (8, 9), (8, 15), (13, 3), (13, 9), (13, 15)\}$$

$$(A \cap B) \times (C \times D) = \{(13, (8, 3)), (13, (8, 9)), (13, (8, 15)), (13, (13, 3)), (13, (13, 9)), (13, (13, 15))\}$$

$$\{3, 8, 9, 13, 15\}$$

Question 2

$$(r \vee q) \wedge ((\neg r \vee (p \wedge q)) \wedge (r \vee q))$$

p	q	r	$(r \vee q)$	$\neg r$	$(p \wedge q)$	$\neg r \vee (p \wedge q)$
T	T	T	T	F	T	T
T	T	F	T	T	T	T
T	F	T	T	F	F	F
T	F	F	F	T	F	T
F	T	T	T	F	F	F
F	T	F	T	T	F	T
F	F	T	T	F	F	F
F	F	F	F	T	F	T

$$(r \vee q) \wedge ((\neg r \vee (p \wedge q)) \wedge (r \vee q))$$

T
 T
 F
 F
 F
 T
 F
 F