Logical Operators

Please do the following exercises individually.

Logical Operators

Please fill in the following truth tables.

а	b	a∧b

а	b	a⊕b

а	b	a∨b

De Morgan's law

Please simplify these expressions with the law of De Morgan.

$$\neg(a \land \neg b \land c) =$$

$$\neg((\neg a \land \neg b \land \neg c) \lor (a \land b \land \neg c)) =$$

$$\neg((\neg a \lor b \lor \neg c) \land (a \lor \neg b \lor \neg c)) =$$

Venn Diagrams

Please draw the Venn diagram of the NAND-Opterator.

Logical Operators and Truth Tables

Please do the following exercises individually.

Logical Operators

Please fill in the following truth tables.

а	b	a∧b
0	0	0
0	1	0
1	0	0
1	1	1

а	b	a⊕b
0	0	0
0	1	1
1	0	1
1	1	0

а	b	a∨b
0	0	0
0	1	1
1	0	1
1	1	1

2

De Morgan's law

Please simplify these expressions with the law of De Morgan.

$$\neg(a \land \neg b) = \neg a \lor b$$

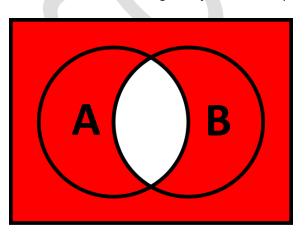
$$\neg(a \land \neg b \land c) = \neg a \lor b \lor \neg c$$

$$\neg((\neg a \land \neg b \land \neg c) \lor (a \land b \land \neg c)) = (a \lor b \lor c) \land (\neg a \lor \neg b \lor c)$$

$$\neg((\neg a \lor b \lor \neg c) \land (a \lor \neg b \lor \neg c)) = (a \land \neg b \land c) \lor (\neg a \land b \land c)$$

Venn Diagrams

Please draw the Venn diagram of the NAND-Opterator.



W. Neff, 2016