Reading 1.4

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$\boxed{3.13}$

(a) A IFF B $\longleftrightarrow$ (NOT(A) OR B) AND (NOT(B) OR A)
A XOR B $\longleftrightarrow$ ~~NOT(A)~~ (A OR B) AND (NOT(A) OR NOT(B))

(b) Since all operators can be constructed out of AND, OR, NOT every propositional formula can be made out of them.

(b) A AND B $\longleftrightarrow$ NOT(NOT(A AND B)) Double Negation
$\longleftrightarrow$ NOT($\bar{A}$ OR $\bar{B}$) De-Morgan's law

Hence, AND can be constructed from NOT and OR. so AND is not needed.

(c) NOT(A) $\longleftrightarrow$ NOT(A AND A) idempotence
$\longleftrightarrow$ ~~NAND(A)~~ A NAND A

~~C~~ A OR B $\longleftrightarrow$ NOT($\bar{A}$ AND $\bar{B}$) De-Morgan's law
$\longleftrightarrow$ $\bar{A}$ NAND $\bar{B}$
$\longleftrightarrow$ (A NAND A) NAND (B NAND B)

Since NOT and OR can be constructed from NAND, all operators can be constructed from it.