

### Logic Summary Chart

Name: \_\_\_\_\_

Symbol	Name	Definition
$p, q, r$	proposition	statement (T or F)
$\neg$	negation	negative "not" $\neg p = \text{"not } p\text{"}$
$\wedge$	conjunction	"and" only T if both true ( $\cap$ )
$\vee$	inclusive disjunction	"or" T if one or both are T ( $\cup$ )
$\nabla$	exclusive disjunction	"or" $p$ or $q$ but not both
	logical equivalence	same truth table
	tautology	always true
	logical contradiction	always false
$\Rightarrow$	implication	"if..... then....." only F with $T \Rightarrow F$
$\Leftrightarrow$	equivalence	"if and only if" T if both are same
$q \Rightarrow p$	converse of $p \Rightarrow q$	"if then" only false with TF
$\neg p \Rightarrow \neg q$	inverse of $p \Rightarrow q$	equivalent to $q \Rightarrow p$ (converse)
$\neg q \Rightarrow \neg p$	contrapositive of $p \Rightarrow q$	equivalent to implication $p \Rightarrow q$
	valid argument	tautology (all true)

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is  
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