

# Lista de Tautologías

## Lista Rápida

1.  $p \wedge q \iff q \wedge p$
2.  $p \vee q \iff q \vee p$
3.  $p \wedge (q \wedge r) \iff (p \wedge q) \wedge r$
4.  $p \vee (q \vee r) \iff (p \vee q) \vee r$
5.  $p \wedge p \iff p$
6.  $p \vee p \iff p$
7.  $p \wedge (q \vee r) \iff (p \wedge q) \vee (p \wedge r)$
8.  $p \vee (q \wedge r) \iff (p \vee q) \wedge (p \vee r)$
9.  $\neg(\neg p) \iff p$
10.  $\neg(p \wedge q) \iff \neg p \vee \neg q$
11.  $\neg(p \vee q) \iff \neg p \wedge \neg q$
12.  $(p \implies q) \iff (\neg p \vee q)$
13.  $\neg(p \implies q) \iff (p \wedge \neg q)$
14.  $p \implies (q \vee r) \iff (p \wedge \neg q) \implies r$
15.  $p \implies (q \vee r) \iff (p \wedge \neg r) \implies q$
16.  $p \implies (q \wedge r) \iff (p \implies q) \wedge (p \implies r)$

## Tablas de verdad

- $(p \implies q) \iff (\neg p \vee q)$
- $\neg(p \implies q) \iff (p \wedge \neg q)$

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

- $p \implies (q \vee r) \iff (p \wedge \neg q) \implies r$
- $p \implies (q \vee r) \iff (p \wedge \neg r) \implies q$

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

- $p \implies (q \wedge r) \iff (p \implies q) \wedge (p \implies r)$

$p$	$q$	$r$	$q \wedge r$	$p \implies (q \wedge r)$	$p \implies q$	$p \implies r$	$(p \implies q) \wedge (p \implies r)$
T	T	T	T	T	T	T	T

T	T	F
T	F	T
T	F	F
F	T	T
F	T	F
F	F	T
F	F	F

F	F
F	F
F	F
T	T
F	T
F	T
F	T

T	F	F
F	T	F
F	F	F
T	T	T
T	T	T
T	T	T
T	T	T