Activity 3.

$P \iff q$ $\quad (p \wedge q) \vee (\neg p \wedge \neg q)$ are logically equivalents

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

The truth table proves $p \leftrightarrow q$ is Equivalent to to $(p \wedge q) \vee (\neg p \wedge \neg q)$