Math 112 - Quiz 6

October 4, 2017

Name _	key	
	3	Score

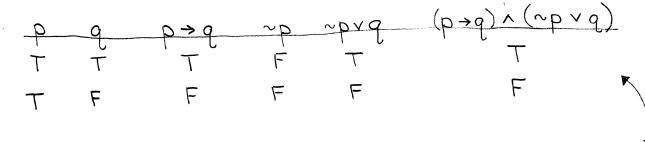
Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Correct the truth table shown below.

p	q	$\sim q$	$(\sim q \lor p)$	$(\sim\!q\ \lor p)\ \to\ q$
Τ	T	F.	T (E)	T
-	\mathbf{F}	\mathbf{T}	$\overline{ m T}$	F
F	Τ	(I) F	\mathbf{F}	T
\mathbf{F}	\mathbf{F}	$\widetilde{\mathrm{T}}$	${ m T}$	① F

2. (2 points) In class, we showed that $\sim (p \to q)$ is logically equivalent to $\sim q \land p$. Use this to negate the statement, "If it is Friday, then I will not eat pizza."

3. (3 points) Use a truth table to determine whether $(p \to q) \land (\sim p \lor q)$ is a tautology, a self-contradiction, or neither.



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4. (1 point) How do we show that two compound statements are logically equivalent?

5. (1 point) What does it mean for a compound statement to be a tautology?