

Math 112 - Quiz 5

September 27, 2017

Name key

Score _____

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

1. (2 points) Write the negation of the statement "None of the students were late to class."

SOME OF THE STUDENTS WERE LATE TO CLASS.

2. (3 points) Construct the truth table for $\sim q \rightarrow p$.

p	q	$\sim q$	$\sim q \rightarrow p$
T	T	F	T
T	F	T	T
F	T	F	T
F	F	T	F

3. (2 points) Here are the statements p and q :

p : Dan works for the post office.

q : Dan enjoys his job.

Write the statement $p \wedge \sim q$ in a grammatically correct sentence.

DAN WORKS FOR THE POST OFFICE, AND HE DOES NOT ENJOY HIS JOB.

4. (2 points) Referring to the problem above, write the statement "If Dan enjoys his job, then he does not work for the post office" in symbolic form.

$$q \rightarrow \sim p$$

5. (1 point) Assume that statements p and q are both true. What is the truth value of $\sim p \rightarrow \sim q$?

$\underbrace{\sim p \rightarrow \sim q}$

$F \rightarrow F$ IS TRUE