

**Math 112 - Quiz 5**

February 28, 2018

Name key

Score \_\_\_\_\_

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

1. (4 points) Given below are the statements  $p$  and  $q$ .

 $p$ : Today is Wednesday. $q$ : I am very busy.

- (a). What statement, in a grammatically correct sentence, is the conjunction of  $p$  and  $q$ ?

Today is Wednesday, AND I am very busy.

- (b) What statement, in a grammatically correct sentence, is  $p \vee \sim q$ ?

Today is Wednesday OR I am NOT very busy.

- (c) Identify the statement "If today is Wednesday, then I am very busy" as a conjunction, disjunction, conditional, or biconditional.

2. (2 points) Write the negation of the statement "Some students take math."

No students take math.

3. (4 points) Construct the truth table for  $\sim p \wedge \sim q$ .

$p$	$q$	$\sim p$	$\sim q$	$\sim p \wedge \sim q$
T	T	F	F	F
T	F	F	T	F
F	T	T	F	F
F	F	T	T	T