

# **Math 112 - Quiz 4**

February 21, 2019

Name \_\_\_\_\_

Score \_\_\_\_\_

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

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1. (2 points) Determine whether each sentence is a statement.
  - (a) Please do not use your cell phone in class.
  - (b)  $10 - 3 = 5$
  - (c) Steve Jobs is the founder of Microsoft.
  - (d) Just do it!
2. (1 point) Write the negation of the statement "He is an English major."
3. (2 points) Identify each statement as a conjunction, disjunction, conditional, or biconditional.
  - (a) She will get very sick if the bee stings her.
  - (b) Sara and Brian went hiking in the mountains.
  - (c) I'm going to pass my math class if and only if I do my homework.
  - (d) When your battery dies, you should charge your phone.

TAKE-HOME PORTION OF QUIZ 4. DUE TUESDAY.

4. (2 points) Write the negation of each statement.

(a) Nobody ever survived a fall from Mount Catherine.

(b) Some people watch *Game of Thrones*.

5. (2 points) Let  $p$  = “The dog is a poodle” and let  $q$  = “The dog bites.” Write each statement in words.

(a)  $q \longrightarrow \sim p$

(b)  $\sim p \wedge p$

6. (1 point) Refer to the statements  $p$  and  $q$  from the problem directly above. Write the statement in symbolic form: “The dog bites if it is a poodle.”