## Math 112 - Quiz 5

February 28, 2019

Name \_\_\_\_\_

Score \_\_\_\_\_

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

- 1. (2 points) Let p be the statement "Sophie has been arrested" and let q be the statement "Bubba has not been arrested." Write each statement in symbolic form.
  - (a) If Sophie has not been arrested, then Bubba has not been arrested.

(b) Neither Sophie nor Bubba has been arrested.

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

3. (1 point) Suppose p and r are false statements, and q is a true statement. What is the truth value of  $q \lor (p \land \sim r)$ ?

TAKE-HOME PORTION OF QUIZ 5. DUE TUESDAY.

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

5. (1 point) Without actually constructing it, determine how many rows and columns the truth table for  $(p \lor q) \land (r \land s)$  would have.

6. (1 point) Suppose p is false and q is true. What is the truth value of  $p \longrightarrow (q \lor \sim p)$ ?