

1) Given the true statement: “If  $x = 5$  , then  $x^2 = 25$ ”, write then converse, inverse, and contrapositive. Circle the one that **must** be true, and provide counterexamples for the other statements to demonstrate why they may be false.

Converse:

Inverse:

Contrapositive:

Below are a list of statements that you are to assume are true. You will use these statements in problems 4 through 7.

If you study the practice quiz, then you will do well on the practice quiz.

If you do well on the practice quiz, then you will get a good grade on the test.

If you get a good grade, then your parents are happy.

If your parents are happy, then you are happy, too.

2) What, if anything, could you conclude if you studied the practice quiz? Make sure to include all conclusions.

3) What, if anything, could you conclude if you get a good grade? Make sure to include all conclusions.

4) What, if anything, could you conclude if you are happy? Make sure to include all conclusions.

5) What, if anything, could you conclude if you did not get a good grade? Make sure to include all conclusions.