

This quiz is worth 10 points, and you have 10 minutes to complete it.

Calculators are NOT allowed today.

1. (4 pts) Write down the cases required to solve the inequality $(x + 1)(x - 2) > 0$. DO NOT SOLVE THE INEQUALITY; JUST WRITE DOWN THE CASES WITH “AND” AND “OR” CONNECTORS, AS APPROPRIATE.

2. (6 pts) Consider the statement: “If $x < 0$, then $|x| = -x$.”

(a) Is the statement above true or false? If it is false, provide a counterexample.

(b) Write down the converse of the original statement. Is the converse true or false? If it is false, provide a counterexample.

(c) Write down the contrapositive of the original statement. Is the contrapositive true or false? If it is false, provide a counterexample.