

The truth value of a conditional statement does not change if the antecedent and consequent are reversed and both are negated. The statement  $\sim q \rightarrow \sim p$  is called the **contrapositive** of the conditional  $p \rightarrow q$ .

$$p \rightarrow q \equiv \sim q \rightarrow \sim p$$

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Example 4: Write the contrapositive for each of the following statements.

- a. If you can read this, then you're driving too closely.
- b. If you do not have clean underwear, it's time to do the laundry.
- c. If all students are honest, then supervision during exams is not required.
- d.  $\sim(p \vee r) \rightarrow \sim q$