

Worksheet §2.2–2.5

1. Your friend has 4 cards, each of which has a letter on one side and an integer on the other. Your friend then makes the statement, "If the letter is a vowel, then the number on the other side is even." You want to check to see whether the statement is true or false. Suppose the 4 cards are lying on a table, and the sides visible to you read

A N 4 7.

Which cards do you turn over?

2. Determine whether the following statements are true or false.
 - (a) Dr. Sharif is either a mathematician or has dark hair.
 - (b) Four is prime or 6 is prime or 8 is prime or 11 is prime.
 - (c) Either 3 and 4 are prime, or 15 is an odd prime, or 8 and 27 are perfect cubes.
 - (d) If 4 is even and prime, then 8 is either prime or a power of 3.
3. Let P be the statement "If the sky is green, then the grass is also green." Write down the converse and the contrapositive. Of the original statement, the converse, and the contrapositive, determine which are true and which are false.