

Worksheet 3

Due: Thursday, February 5

Put full names of the group at the top. Pick one person to record who hasn't before. Star their name.

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

\boxed{A} \boxed{N} $\boxed{4}$ $\boxed{7}$.

Which cards do you turn over? You want to turn over as few cards as possible to check. Explain.

2. For each conditional, write down the contrapositive, the converse, and the negation. Determine truth or falsehood of all four statements.

(a) If $2 + 2 = 5$, then the sky is green.

(b) If $2 + 2 = 4$, then the sky is green.

(c) If $x = 2$ or $x = 7$, then x is even and x is prime.