Math 301 Quiz #2a Name_____

1. Let $x$ be an integer. Prove: $x$ is even if and only if $x - 3$ is odd.

2. Disprove: If $x$ is odd, then $x$ is prime.

3. Prove that $x \to (y \vee z)$ is logically equivalent to $(x \wedge \neg\, z) \to y$.

Math 301 Quiz #2b Name_____

1. Let $x$ be an integer. Prove: $x$ is even if and only if $x - 5$ is odd.

2. Disprove: If $x$ is odd, then $x$ is prime.

3. Prove that $x \to (y \vee z)$ is logically equivalent to $(x \wedge \neg\, y) \to z$.