Math175 - Discrete Mathematics - Spring 2005

Quiz #5, April 18, 2005

In the following problems you are required to show all your work and provide the necessary explanations everywhere to get full credit.

1. Give the contrapositive, converse and inverse of the following quantified statement:

   $\forall$ integers a, b, and c, if $a - b$ is even and $b - c$ is even, then $a - c$ is even.

2. Negate the following multiply quantified statement P:

$$\forall x \in \mathbb{R}, \exists y \in \mathbb{R} \mid 2x + 3y = 1.$$

Determine, which statement is false: P or $\sim P$.