

Name \_\_\_\_\_

**Math 299**

**Quiz #5**

**Sep 26, 2013**

For each of the following statements, either give a proof, with all the steps of a rigorous argument, or give a counterexample to show it is false. The variable  $n$  is assumed to be a real number,  $n \in \mathbb{R}$ .

1. The number  $n$  is an odd integer is *sufficient* for  $3n+2$  to be an odd integer.

2. The number  $n$  is an odd integer is *necessary* for  $3n+2$  to be an odd integer.  
(Hint: Consider  $3n + 2 = 7$ .)