Quiz 10 **MGF 3301 Intro. to Adv. Math**

Student's Name:_____ E. Hironaka

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This is a 30 minute quiz. Discuss the problems in your group, and then write down your own answer.

1. Let A, B, C be three sets. For the following, find examples of functions $f : A \to B$ and $g : B \to C$ satisfying the statement, or prove that such examples do not exist.

   (a) f is not one-to-one, g is one-to-one, and $g \circ f$ is one-to-one.

   (b) f is not onto, g is onto, and $g \circ f$ is onto.

2. Show that divisibility defines a partial order on $\mathbb{N}$. How about on $\mathbb{R}$?