

The majority of the credit you receive will be based on the completeness and the clarity of your responses. **Show all of your work and justify your solutions as much as possible.**  
This is a 15 minute quiz and has 1 questions, for a total of 10 points

(10 points) 1. Let  $a \in \mathbb{Z}$  such that  $a \equiv 1 \pmod{5}$ . Prove that  $a^2 \equiv 1 \pmod{5}$ .