Quiz 7: November 9, 2021

Name: _____

Student ID: _____

1. (5 points) If $n > 1$ and $n \in$ the Integers, prove by Induction that

$$3^n \geq 2n + 5$$

Clearly identify your Basis Case (1 points), your Inductive Step (3 points), and your Inductive Hypothesis (1 points).

2. (5 points) If $n > 0$ and $n \in$ the Integers, prove by Induction that

$$2^n \leq 2^{n+1} - 2^{n-1} - 1$$

Clearly identify your Basis Case (1 points), your Inductive Step (3 points), and your Inductive Hypothesis (1 points).