	Quiz 6: Cinco de Mayo, 2016	
Left Neighbor: _	Right Neighbor:	_
Name:	Student ID:	
Section TA:		

This is a closed book quiz

1. (2 points) Prove the below by induction for all natural numbers, $n \ge 7$. You get 1 point for stating the Inductive Hypothesis, 1 point for the Basis Step, and 3 points for the Inductive step.

$$3^n < n!$$

(2 points) Prove the below by induction for all positive integers, n. You get 1 point for stating the Inductive Hypothesis, 1 point for the Basis Step, and 3 points for the Inductive step.

$$\sum_{i=1}^{n} i2^{i} = (n-1)2^{n+1} + 2$$

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