

## Math 8 - Quiz 10

Name:

Section:

**Problem 1.** Recall that we defined the *factorial* of  $n \in \mathbb{N}^+$  to be  $n! = (1)(2)\dots(n-1)(n)$ . In other words, we can define this recursively as

$$(n+1)! = (n+1) \cdot n!$$

Prove by induction that for all  $n \in \mathbb{N}$  with  $n \geq 4$ , we know that  $n! > 2^n$ .