Math 215 Homework

January 28, 2008

1. Show by induction that 2 divides \( n^2 - n \)

2. Prove by induction that for all \( n \) that
\[
\sum_{i=1}^{n} \frac{1}{i(i+1)} = \frac{n}{n+1}.
\]

3. Prove by induction that for all \( n \geq 4 \) that \( n! > 2^n \).