

**Math 270 - Basic Discrete Mathematics**  
**Practice Quiz on Section 5.2**

**Directions:** Answer the problem given below.

1. Prove using mathematical induction that for every integer  $n \geq 1$ ,

$$\frac{2}{1 \cdot 2} + \frac{2}{2 \cdot 3} + \frac{2}{3 \cdot 4} + \cdots + \frac{2}{n(n+1)} = \frac{2n}{n+1}.$$