Math 481 - Graded Problems #1 Name: _____
Fall 2013 - Nathan Reff

1. Prove that for all positive integers n,

$$1^3 + 2^3 + \cdots + n^3 = \left[\frac{n(n+1)}{2}\right]^2.$$

2. Prove that for all positive integers $n \geq 2$,

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