

**Math 112**  
**Quiz 3**  
**Wednesday, February 1, 2008**

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**Some Useful Summation Formulas.**

- $\sum_{k=1}^n c = cn$
- $\sum_{k=1}^n k = \frac{n(n+1)}{2}$
- $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

1. Express the sum

$$1^2 + 3^2 + 5^2 + \dots + 97^2 + 99^2$$

using sigma notation.

2. Evaluate  $\sum_{k=0}^9 (k+1)^2$ .

3. Evaluate  $\int_2^5 x \, dx$  by computing the limit of Riemann sums (either left or right sums are fine; use whichever you prefer).