10/16/2001 MA331 Applied Prob/Stats I Name:_____
Dr. Lunsford Quiz 6 (20 Points Total)

Each problem counts four points. Some formulas you may or may not need are: $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$ and $\sum_{i=1}^{n} i^2 = \frac{n(n+1)(2n+1)}{6}$. Neatly show all of your work and clearly indicate your answers.

I. Let X be a random variable and $f(x) = \frac{x}{c}$, $x = 1,2,...,10$. Please answer the following:

(a) Find a value for the constant c so that f is a p.m.f. for X.

(b) Find $E(X)$

II. Let Y be a random variable and suppose that $E[Y+3] = 7$ and $E[(Y+3)^2] = 100$. Find each of the following:

(a) $Var(Y+3)$

(b) m_Y

(c) s_Y^2