- Hi,

  I'd like to elaborate on point 3 that was mentioned in the last post.

  Suppose one is going to attempt this question on statistics:

  The random variable X has the binomial distribution B(n, p) where $0 < p < 1$.

  (a) Given that $\text{Var}(X) = \frac{4}{5} E(X)$, find the least value of n such that $P(X \geq 1) > 0.92$.

  (b) Given that $n = 8$ and $p = 1/3$, the random variable S is the sum of 60 independent observations of X. Find the approximate value of $P(S > 162)$.

  A quick scan will reveal that the problem focuses on the Binomial distribution and the Central Limit Theorem.

  Quick notes may include the following points:

  - $E(X) = np$, $\text{Var}(X) = npq$ for any Binomial random variable X.

  - $P(X = x) = {}^{n}C_{x}\, p^{x} q^{(n - x)}$ for any Binomial random variable X.

  - $X_1 + X_2 + \ldots + X_m \sim N(m E(X), m \text{Var}(X))$ for large n (i.e. ≥ 50).

  - TI-GC's command **normalcdf** (a, b, mu, sigma) to compute $P(a < X < b)$.

  Thanks!