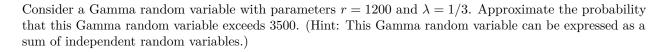
## Applying the Central Limit Theorem

Math 445, Spring 2017

## Example 1



## Example 2

Suppose that  $X_1, \ldots, X_{500}$  are independent Geometric random variables, each of which have  $E(X_i) = 8/5$ . Let  $T = X_1 + \cdots + X_{500}$ .

a. What are the expected value, variance, and standard deviation of T?

b. Find a good approximation for P(780 < T < 820). (You may leave this in terms of  $\Phi(\cdot)$ .)