Math 104 - Quiz 11   Name_____

1. Suppose a random variable X has a probability distribution with
    $E(X) = \mu = 100$ and $\sigma = 20$.

a. (2 pts.) Find a lower bound for $\Pr(40 \leq X \leq 160)$.

b. (2 pts.) Find the value of c such that $\Pr(100 - c \leq X \leq 100 + c) \geq \frac{3}{4}$.

2. Suppose a jar contains 6 marbles - 4 red and 2 green. We pick out a
    marble, note its color, and then replace it in the jar. We repeat this three
    times.

a. (2 pts.) What is the probability of two green marbles being drawn?

b. (2 pts.) What is the mean number green marbles drawn?

c. (2 pts.) What is the variance for the number of green marbles drawn?