

Due Tuesday, Oct 23

Solve the following problems and staple your solutions to this cover sheet.

1. Exercise 3.103
2. Exercise 3.105
3. Exercise 3.115(a, b)
4. Exercise 3.117
5. Exercise 4.1
6. Exercise 4.4
7. Exercise 4.8
8. Let Y be a random variable with mean 20 and variance 5. Find b such that
$$P(|Y - 20| > b) \leq 0.225.$$
9. Suppose that a basketball player can make a free throw 60% of the time. Let Y equal the minimum number of free throws that this player must attempt to make a total of 10 shots. Find the mean and variance of Y .
10. Suppose Y is a Poisson random variable with parameter λ . Find its moment-generating function. Hint: $\sum_{y=0}^{\infty} \frac{(\lambda e^t)^y}{y!} = e^{\lambda e^t}$.