

56.

a. With $Y = \#$ of tickets, Y has approximately a normal distribution with $\mu = \lambda = 50$,

$$\sigma = \sqrt{\lambda} = 7.071, \text{ so } P(35 \leq Y \leq 70) \approx P\left(\frac{34.5 - 50}{7.071} \leq Z \leq \frac{70.5 - 50}{7.071}\right) = P(-2.19 \leq Z \leq 2.90) = .9838$$

b. Here $\mu = 250$, $\sigma^2 = 250$, $\sigma = 15.811$, so $P(225 \leq Y \leq 275) \approx$

$$P\left(\frac{224.5 - 250}{15.811} \leq Z \leq \frac{275.5 - 250}{15.811}\right) = P(-1.61 \leq Z \leq 1.61) = .8926$$