Let X be a normally distributed random variable with mean of 10 and standard deviation of 5. Find

A) $\mathrm{P}(\mathrm{X} \leq 6)$ (0.212)

B) P(X>8) (0.655)

C) $\mathrm{P}(6 \leq \mathrm{X} \leq 8)$ (0.333)

D) Value a such that $\mathrm{P}(\mathrm{X} \leq \mathrm{a}) = 0.655$ (12)

E) Value a such that $\mathrm{P}(\mathrm{X} > \mathrm{a}) = 0.3$ (12.622)

F) Suppose $X_1, X_2, X_3, X_4$ are independent with the same distribution described above, find $\mathrm{P}(X_1 + X_2 + X_3 + X_4 \leq 35)$ $(0.3085)$

A coin is flipped 100 times and X counts the number of heads.Use central limit theorem to estimate $\mathrm{P}(\mathrm{X} < 60)$ (0.9893)

Mike flips a coin 60 times and X represent the number of heads. John flips a coin 40 times and let Y represent the number of heads. Find $\mathrm{P}(\mathrm{X} - \mathrm{Y} \leq 11)$ (0.6179)

Let X be Poisson distributed random variable with mean $\lambda = 10$ find

A) P(X=1)

B) P($X \leq 2$)

Let X be exponential random variable with mean 2, find

A) P(X<4)

B) P(3<X<6)

Let X be a random variable with mean 6 and variance 2

A) Give an upper bound for P(X$\geq 2$)

B) Give an lower bound for P($4 \leq$X$\leq 8$)