Quick Questions 9 Discrete Probability Distributions

I. Place the letter of the appropriate definition or formula next to the concept or value it defines.

1. Poisson distribution formula		A. 1- P(S)
2. 0! =		B. $\Sigma[x \bullet P(x)]$
3. P(F) = (F is failure)		C. $[\Sigma x^2 \bullet P(x)] - [E(x)]^2$
4. Binomial distribution		D. x
5. x^0 =		E. $P(X) = \frac{n!}{X!(n-x)!} p^x q^{n-x}$
6. E(x) = μ =		F. Requires np or nq be less than 5
7. x^1 =		G. np
8. V(x) = σ =		H. 1
9. Poisson approximation of the binomial		I. $P(X) = \frac{\mu^x e^{-\mu}}{X!}$
10. Mean of a Poisson distribution		J. 1

Note: The mean, variance, and standard deviation for a binomial distribution equal np, npq, and $\sqrt{npq}$ respectively.

II. The sales manager of the XYZ Company made the following estimates of next year's sales.

Sales (millions of $)	P(x)			
4	0.2			
5	0.4			
5	0.4			
	1.0			

A. What are expected sales for next year?

B. Calculate the variance for this_____distribution.