

**Quiz 3 for Statistics 301**  
**Elementary Statistical Methods - Fall 1999**  
**Material Covered: Chapter 5 of Workbook and text**  
**For: 8th October**

Name (please print): \_\_\_\_\_  
last first

Consider the following distribution of the number of prisoners,  $X$ , out of five on parole who become repeat offenders.

$X$	0	1	2	3	4	5
$P(X = x)$	0.237	0.396	0.264	0.088	0.015	0.001

1. [1] The probability that one or more of the five parolees will be a repeat offender is: \_\_\_\_\_.
2. [1] The expected number of repeat offenders is: \_\_\_\_\_.
3. [2]  $\sigma =$  \_\_\_\_\_.
4. [1] **True / False** This is a binomial distribution where  $p = 0.25$ .
5. [1] Assume this is a binomial distribution where  $p = 0.25$ . This binomial distribution can be approximated (badly) by a Poisson distribution where  $\lambda =$  \_\_\_\_\_.

1. [1] 0.763
2. [1]  $\mu = np = 1.25$  or long way
3. [2]  $\sigma = \sqrt{np(1-p)} \approx 0.97$
4. [1] **True**
5. [1]  $\lambda = np = 1.25$