7.19 Exercise 21

The probability of a salesman making a successful sales call is 0.2 when 8 calls are made in a day. Determine the probability of making exactly 3 successful calls in a day. Determine the probability of making more than 2 successful calls in a day.

21. $p = 0.2 \quad n = 8$

$$P(x=3) = \binom{8}{3}(.2)^3(1-.2)^{8-3}$$

$$= (56)(.008)(.328) = .14680$$

$$P(X>2) = 1 - P(x=0) - P(x=1) - P(x=2)$$

$$= 1 - \binom{8}{0}.2^0(.8)^8 - \binom{8}{1}.2^1(.8)^7 - \binom{8}{2}.2^2(.8)^6$$

$$= 1 - .1678 - .3355 - .2936$$

$$= .2031$$