Solutions to HW 4

(a)
$$\rho(x>6) = 1-\rho(x \le 6) = 1-b \text{ inom } cdf(30,0.20,6)$$

3
$$P(X=7) = binompdf(30, 6.20, 7)$$

 $\binom{30}{7} 0.20 \times 0.80$

The Poisson (
$$\lambda = 3$$
 outages/month)

$$P(X77) = 1 - P(X \le 6)$$

(8)
$$\lambda = 2$$
 $P(X > 5) = 1 - P(X \le 4)$
= 1- poissonedf (2(3), 4

$$= (0.715)$$

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$$A = 2 P(X75) = 1 - P(X \le 5)$$

$$= 1 - Posisson cdf(6)$$

$$= |-P(X \leq 6)|^{-1} = (.736)$$

(3)
$$P = 0.10$$

 $P(X < 6) = P(X = 5) = geometrodf(10,5)$
 $= 0.40951$
 $= 0.410$

$$\mathbb{E}\mathcal{M} = \frac{1}{p} = \frac{1}{0.05} = \boxed{20}$$

$$n = 30$$

 $x = number \oplus$
indep.