5.10 Here, $n = 15$ and $p = 0.1$, so from Table A.1, we get

(a) $P(3 \le X \le 6) = 0.1838.$

(b) $P(X \le 3) = 0.9444.$

(c) $P(X \ge 6) = 0.0022.$

5.28 $n = 20$;

(a) $p = 0.20$, $P(X \ge x) \le 0.5$ and $P(X < x) > 0.5$ yields $x = 3$. $\boxed{\leftarrow 5\ (3\ \text{更正為}\ 5)}$

(b) $p = 0.80$, $P(Y \ge y) \ge 0.8$ and $P(Y < y) < 0.2$ yields $y = 15$.

5.40 The binomial approximation of the hypergeometric with $p = 1 - 4000/10000 = 0.6$ gives a probability of $\sum_{x=0}^{7} b(x; 15, 0.6) = 0.2131.$

5.80 $\lambda = 2.7$ call/min.

(a) $P(X \le 4) = \sum_{x=0}^{4} \frac{e^{-2.7}(2.7)^x}{x!} = 0.8629.$

(b) $P(X \le 1) = \sum_{x=0}^{1} \frac{e^{-2.7}(2.7)^x}{x!} = 0.2487.$

(c) $\lambda t = 13.5$. So,

$$P(X > 10) = 1 - P(X \le 10) = 1 - \sum_{x=0}^{10} \frac{e^{-13.5}(13.5)^x}{x!} = 1 - 0.2112 = 0.7888.$$