

6. (1) 是, 離散的 企鵝 = 甲 吳晨莉

(2) $X \sim B(10, 0.5)$, $P(X \geq 6) = 1 - P(X \leq 5)$
 $= 1 - 0.623 = 0.377$

(3) $P(X \leq 4) = 0.377$

34. (1) $P(X=0) = \frac{e^{-0.5} 0.5^0}{0!} = e^{-0.5} = 0.6065$

(2) $P(X \geq 1) = 1 - P(X=0) = 1 - e^{-0.5} = 0.3935$

35. 令 X 為 10 呎寬 30 呎長的氣泥穀瓶數;

(1) $P(X=0) = \frac{e^{-3} 3^0}{0!} = 0.0498$ 則 $X \sim P(3)$?

(2) $P(X=2) = \frac{e^{-3} 3^2}{2!} = 0.224$

39. 令 X 為上網時間長度, 則 $X \sim N(5, 3.5)$

$P(X > 8) = P(Z > \frac{8-5}{\sqrt{3.5}}) = P(Z > 0.86) = 1 - 0.805 = 0.1949$

8. (1) $P(X > 15) = P(\frac{X-13.2}{5.3} > \frac{15-13.2}{5.3})$

$= P(Z > 0.34) = 1 - P(Z \leq 0.34)$

$= 1 - 0.6331 = 0.3669$

(2) 因為 $X \sim N(13.2, 5.3^2)$, 所以 X

$\bar{X} \sim N(13.2, \frac{5.3^2}{10})$ 即 $\frac{\bar{X}-13.2}{\frac{5.3}{\sqrt{10}}} \sim N(0,1)$

$P(\bar{X} > 15) = P(\frac{\bar{X}-13.2}{\frac{5.3}{\sqrt{10}}} > \frac{15-13.2}{\frac{5.3}{\sqrt{10}}})$

$= P(Z > 1.36) = 1 - P(Z \leq 1.36)$

$= 1 - 0.9131 = 0.0869$