6

(1) 是 離散的

(2) $X \sim B(10, 0.4)$, $P(X \geq 6) = 1 - P(X \leq 5) = 1 - 0.623 = 0.377$

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

34. $X \sim P_o(0.5)$

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

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

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* ポアソン

$P(X=x) = \frac{e^{-k} \cdot k^x}{x!}$

$P(X=k) = \sum_{x=0}^{k} \frac{\lambda^x}{x!} e^{\lambda}$

35. $X \sim P_o(3)$

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

(2) $P(X=2) = \frac{e^{-3} 3^2}{2!} = 0.4232 - 0.1991 = 0.2241$

39 $X \sim N(5, 3.5^2)$

$P(X>8) = P\left(Z > \frac{8-5}{3.5}\right) = P(Z > 0.86) = 1 - 0.8051 = 0.1949$

8.

(1) $X \sim N(13.2, 5.3^2)$

$P(X>15) = P\left(\frac{X-13.2}{5.3} > \frac{15-13.2}{5.3}\right)$

$= P(Z > 0.34)$

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

$= 1 - 0.6331$

$= 0.3669$

(2) $X \sim N(13.2, 5.3^2)$, $\overline{X} \sim N\left(13.2, \frac{5.3^2}{16}\right)$, $\frac{\overline{X} - 13.2}{\frac{5.3}{\sqrt{16}}} \sim N(0,1)$

$P(\overline{X} > 15) = P\left(\frac{\overline{X} - 13.2}{\frac{5.3}{\sqrt{16}}} > \frac{15-13.2}{\frac{5.3}{\sqrt{16}}}\right) = P(Z > 1.36)$

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

$= 1 - 0.9131$

$= 0.0869$ #