

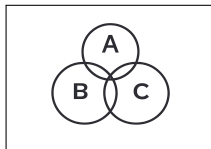
21

Discrete Distribution Poisson Variable

R

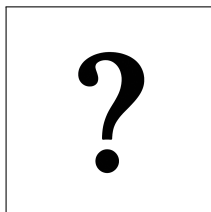


$$\lambda = 1$$



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

$$P(X = 0) = e^{-1} \frac{1^0}{0!} = e^{-1} \approx \boxed{0.37}$$



$$n = 20$$

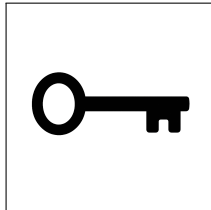
$$p = 0.08$$

$$P(X = 1) = ?$$

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$$\begin{aligned}n &= 20 \\p &= 0.08 \\P(X = 1) &= ?\end{aligned}$$

$$P(X = 1) = \binom{20}{1} (0.08)^1 (0.92)^{19}$$

$$P(X = 1) = 20 \times 0.08 \times 0.92^{19}$$

$$P(X = 1) \approx 1.6 \times 0.2050$$

$$P(X = 1) \approx \boxed{0.328}$$