

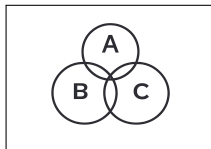
21

Discrete Distribution Poisson Variable

N

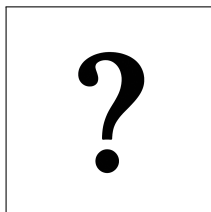


$$\lambda = 1$$



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

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



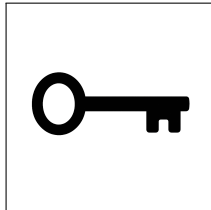
$$n = 20$$

$$p = 0.03$$

21

Discrete Distribution
Poisson Variable

N



$$n = 20$$
$$p = 0.03$$

$$\lambda = np = 20 \times 0.03 = 0.6$$

$$X \approx \text{Pois}(0.6)$$

$$P(X = 1) = e^{-0.6} \frac{0.6^1}{1!}$$

$$P(X = 1) = 0.6 e^{-0.6}$$

$$P(X = 1) \approx 0.6 \times 0.5488$$

$$P(X = 1) \approx \boxed{0.3293}$$