

Lista 2 Problema 6

$$X \sim \text{Poisson}(\lambda)$$

$$P(X=k) = e^{-\lambda} \frac{\lambda^k}{k!} \quad \lambda = 3$$

$$P(X=0) = e^{-3} \frac{3^0}{0!} = e^{-3} = \boxed{0.04979}$$

$$Y \sim \text{Poisson}(12)$$

$$Y = X_1 + X_2 + X_3 + X_4$$

$X_i \sim \text{Poisson}(3)$
independents

$$P(Y > 5) = 1 - P(Y \leq 5)$$

$$= 1 - (P(Y=0) + P(Y=1) + \dots + P(Y=5))$$

$$= 1 - \left(e^{-12} + e^{-12} \frac{12^1}{1!} + e^{-12} \frac{12^2}{2!} + \dots + e^{-12} \frac{12^5}{5!} \right)$$

$$= 1 - \text{ppois}(5, 12)$$

$$= 1 - 0.02034 = \boxed{0.9797}$$