

Problema 7

Llista 2

$$X \sim \text{Poisson}(1.2)$$

$$\begin{aligned} \text{a)} \quad P(X=3) &= P(X=0) + P(X=1) + P(X=2) \\ &= e^{-1.2} + e^{-1.2} 1.2 + e^{-1.2} \frac{(1.2)^2}{2} \\ &= \text{ppois}(2, 1.2) \end{aligned}$$

$$\begin{aligned} \text{b)} \quad Y &= X_1 + X_2 + X_3 + X_4 \sim \text{Poisson}(4.8) \\ P(Y \geq 1) &= 1 - P(Y < 1) = 1 - P(Y=0) \\ &= 1 - e^{-4.8} \end{aligned}$$

$$\text{c)} \quad Z = \text{"numero d'ampolles amb cap insecte"}$$

$$Z \sim B(4, e^{-1.2})$$

$$P(Z=2) = \binom{4}{2} (e^{-1.2})^2 (1 - e^{-1.2})^2$$