

#3 (comprobación)

Problema No. 1

$$P(X=x) = \binom{n}{x} \cdot p^x (1-p)^{(n-x)}$$

$$n=10$$

$$x = \underset{\text{dha}}{2}, \underset{\text{No}}{5}, \underset{\text{No}}{3}, \underset{\text{No}}{0}, \underset{\text{No}}{1}, \underset{\text{No}}{0}$$

$$p \rightarrow p = P(\text{dha}) + P(\text{No}) = 0.225 + 0.544 = 0.769$$

a)

$$P(X=2, 5, 3) = \binom{10}{2} \cdot (0.225)^2 \cdot (0.544)^5 \cdot (0.231)^3 \\ = 0.0026 \text{ pr}$$

$$b) n=10$$

$$x=10$$

$$p=54.4\%$$

$$P(X=10) = \binom{10}{10} (0.544)^{10} (1-0.544)^{(10-10)} = 0.0017 \text{ pr}$$

Problema 2

$$P(X \leq 2) = \sum \binom{n}{x} \cdot p^x \cdot q^{(n-x)} \text{ desde } x=0 \text{ hasta } x=2$$

$$n=125$$

$$x = (0, 1, 2)$$

$$p \rightarrow \frac{\text{compra defectuosa}}{\text{denominador}} = \frac{9}{125} = 0.072$$

$$q = 1-p = 1-0.072 \\ = 0.928$$

$$P(X \leq 2) = (\binom{106}{0} \cdot (0.072)^0 + (0.928)^{10}) + (\binom{106}{1} \cdot (0.072)^1 \cdot (0.928)^9) + \\ (\binom{106}{2} \cdot (0.072)^2 \cdot (0.928)^8) = 0.9584$$

Problema 3

3 parcelas

7 frutales

$$\rightarrow P(X=7) = \frac{(e^3 - 3^7)}{7!} = 0.0216 \text{ pr}$$

4da Pregunta

9750

9765

6.5

$$Z = \frac{(x-\mu)}{\sigma} \rightarrow Z = \frac{(165-150)}{6.5} = 2.31 \text{ pr}$$