

6.1) a) 3 brancos por 1 preto

b) 1 branco por 3 pretos

c) $M_x 3(p)^3(1-p)^1$

$$6p(1-p) - 3p^2 = -3p(3p-2)$$

$$3p-2=0 \Leftrightarrow p = \frac{2}{3}$$

↑
será Max?

$$p = \frac{2}{3} //$$

0	1	2	3	1
0	7	0	7	0
		↑		
		E Max		

6.2) $X \sim \text{Exp}(\lambda) \left[\text{Exp}\left(\frac{1}{\mu}\right) \right]$

$$E(X) = \frac{1}{\lambda} = \mu$$

$$\sum_{i=1}^{10} x_i = 1740$$

$$P(X > 200) = \int_{200}^{+\infty} \lambda e^{-\lambda x} dx = \left[-e^{-\lambda x} \right]_{200}^{+\infty} = e^{-200\lambda} = 0,3168$$

$$L(\lambda, f_x) = \prod_{i=1}^{10} \lambda e^{-\lambda x_i} = \lambda^{10} e^{-\lambda \cdot 1740}$$

$$\frac{dL(\lambda, f_x)}{d\lambda} = -\lambda^9 (1740\lambda - 10) e^{-1740\lambda} = 0$$

$$1740\lambda - 10 = 0 \Leftrightarrow \lambda = \frac{1}{174}$$

		λ	
1	7	M_{Ax}	7
0	+	0	-