

RESOLUÇÃO do 4º TESTE

11º 44 Março 2013

$$1.1) P(VVV) + P(DDD) = \frac{7}{14} \times \frac{6}{13} \times \frac{5}{12} + \frac{5}{14} \times \frac{4}{13} \times \frac{3}{12} = \frac{45}{364} \approx 0,124$$

$$1.2) P(A, D, D) + P(D, A, D) + P(D, D, A) = 3 \times \frac{2}{14} \times \frac{5}{13} \times \frac{4}{12} = \frac{5}{91} \approx 0,055$$

$$2) P(B/A) = \frac{P(B \cap A)}{P(A)} = \frac{0,24}{0,3} = 0,8$$

$$3.1) p = (1 - 0,375)^6 \times 0,375 \approx 0,022 \quad 3.2) \frac{1}{0,375} \approx 2,667$$

$$4.1) P(L) = P(L/RG) \times P(RG) + P(L/R2) \times P(R2) = 0,25 \times 0,6 + 0,125 \times 0,4 = 0,2$$

$$4.2) P(PR) = 0,25 \times 0,6 + 0,375 \times 0,4 = 0,3$$

$$P(RG/PR) = \frac{P(PR/RG) \times P(RG)}{P(PR)} = \frac{0,25 \times 0,6}{0,3} = 0,5$$

$$5.1) \frac{38 + 76}{2} = 57 \quad 5.2.1) p = \frac{76 - 45}{38} = \frac{31}{38} = 0,816$$

$$5.2.2) p = \frac{55 - 43}{38} = \frac{6}{19} = 0,316$$

$$5.2.3) p = \frac{60 - 38}{38} = \frac{11}{19} = 0,579$$

$$6.1) \lambda = \frac{1}{26} = 0,03846$$

$$6.2.1) p = 1 - P(0 < X < 32) = 1 - \left[e^{-0,03846 \times 0} - e^{-0,03846 \times 32} \right] = 0,253$$

$$6.2.2) X > 22 \text{ e } X < 19 \text{ impossível ou } p = 0$$

$$7) \lambda = 3,2$$

$$7.1) 3,2 \times 60 = 192 \text{ CENTENAS ou } 19200 \text{ UNIDADES}$$

$$7.2.1) P(X=0) = e^{-3,2} \times \frac{3,2^0}{0!} = 0,04076$$

$$7.2.2) p = 1 - P(X=0) = 1 - 0,04076 = 0,95924...$$

$$7.2.3) e^{-3,2} \times \frac{3,2^{42}}{42!} \text{ ou } e^{-320} \times \frac{320^{420}}{420!}$$

$$8.1) 47,5\% + 50\% = 97,5\% \text{ ou } 100\% - 2,5\% = 97,5\%$$

$$8.2) 34\% + 47,5\% = 81,5\%$$

$$9.1) P(X < 14) = P\left(\frac{X-25}{5} < \frac{14-25}{5}\right) = P(U < -2,2) = \\ = 1 - P(U < 2,2) = 1 - 0,9861 = 0,0139$$

$$9.2) P(X > 17) = P(U > -1,6) = P(U < 1,6) = 0,9452$$

$$9.3) P(16,2 < X < 18,8) = P(-1,76 < U < -1,24) = P(1,24 < U < 1,76) = \\ = P(U < 1,76) - P(U < 1,24) = 0,9608 - 0,8925 = 0,0683$$

$$10.1) P(X < 68) = P(U < -0,6) = 1 - P(U < 0,6) = 1 - 0,7257 = 0,2743$$

$$10.2) P(X > 93) = P(U > 1,9) = 1 - P(U < 1,9) = 1 - 0,9713 = 0,0287$$

$$10.3) P(63 < X < 78) = P(-1,1 < U < 0,4) = P(U < 0,4) - (1 - P(U < 1,1)) \\ = 0,6554 - (1 - 0,8643) = 0,5197$$