82148 - Dani

(2-) $m = 7 \quad K = 3 \quad p = \frac{1}{6}$

$q = 1 - p = \frac{5}{6} \rightarrow \binom{7}{3}\left(\frac{1}{6}\right)^3\left(\frac{5}{6}\right)^4$

$\frac{7!}{3!(7-3)!} \cdot \frac{1}{216} \cdot \frac{625}{1296} =$

$35 \cdot \frac{1}{216} \cdot \frac{625}{1296} = \frac{21875}{279936} = 0,078 = 7,8\%$

(3-) $P = \frac{E}{S}$

$P_1 = 25/30 \qquad P_2 = 19/20$

$P = P_1 \cdot P_2$

$P = \frac{25}{30} \cdot \frac{19}{20}$

$P = \frac{475}{600} = \frac{19}{24}$

(4-) $P(x) = \frac{m!}{(m-x)!x!} p^x q^{m-x} \qquad m = 6;\ p = 1/4;\ q = 3/4$

$P(3) = \frac{6!}{(6-3)!3!} \frac{1^2}{4} \frac{3^{6-3}}{4} = \frac{6!}{3!3!} \frac{1^2}{4} \frac{3^3}{4} =$

$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{3 \cdot 2 \cdot 1 \cdot 3 \cdot 2 \cdot 1} \cdot \frac{1}{64} \cdot \frac{27}{64} = 20 \cdot \frac{27}{4096} =$

$\frac{540}{4096} = 0,13$

(5-) $\lambda = 5$; $K = 2$; $e = 2.718$

$$P(K) = \frac{\lambda^K \cdot e^{-\lambda}}{K!} = P(2) = \frac{5^2 \cdot 2.718^{-5}}{2!} =$$

$$P(2) = \frac{25 \cdot 0.00673}{2} = P(2) = \frac{0.1684}{2} =$$

$P(2) \cong 0.0842 \rightarrow 8.42\%$

(6-)

(7-)

(8-) Vitórias = 2, 5, 7, 11 e 12 (5)
Empates = 1 e 10 (2)
Derrotas = 3, 4, 6, 8 e 9 (5)

Vitórias = Derrotas

(9) 1 + 2 + 4 + 6 = 13

13 · 0,70 = 9,1 → 10 alunos deveriam ser aprovados, porém foram apenas 7 (+/- 50%). Letra (C)

(10) 21 balas → 6 vermelhas e 7 amarelas

$\frac{6}{21} \cdot \frac{7}{21} = \frac{6}{21} \cdot \frac{1}{3} = \frac{6}{63} / 3 = \frac{2}{21}$ (D)

(11) 52 cartas → 4 ás

$\frac{4}{52} = \frac{1}{13}$ assim, o complemento é $\frac{12}{13}$ (B)

(12)