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CT II

Probabilidade II

(01) 3 + 2 = 5 lampadas, preciso escolher 3

$$\frac{3}{5} \cdot \frac{2}{4} \cdot \frac{2}{3} \cdot P_3$$

alternativa "B"

$$\frac{3}{5} \cdot \frac{2}{4} \cdot \frac{2}{3} \cdot \frac{3!}{2!} = \frac{12}{60} \cdot \frac{3\cancel{2!}}{\cancel{2!}} = \frac{36^{12}}{60_5} = \frac{3}{5}$$

02) 2 dados = 6 6 = 36

$n(S) = 36$.

A = { soma 3 } = {(1,2), (2,1)}, $n(A) = 2$

B = { soma 6 } = {(1,5), (2,4), (3,3), (4,2), (5,6)}, $n(B) = 5$

$A \cup B$ = { soma 3 e soma 6 } = {(1,2), (2,1), (1,5), (2,4), (3,3), (4,2), (5,6)}, $n(A \cup B) = 7$

alternativa "C"

$P = \frac{7}{36}$

Q3) $P(A \cap B) = ?$

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

$100\% = 95\% + 8\% - P(A \cap B)$

$100\% = 103\% - P(A \cap B)$

$P(A \cap B) = 103\% - 100\%$

$P(A \cap B) = 3\%$ //

04) (2,5), (5,2), (4,5), (5,4), (5,6), (6,5), (5,8), (8,5) -
P8

$\frac{1}{10} + \frac{1}{10} - \frac{1}{100} = \frac{19}{100}$ $\quad \frac{19}{100} + \frac{8}{100} = \frac{27}{100} = 27\%$.

$8\frac{1}{10} \cdot \frac{1}{10} = \frac{8}{100}$

100% - 27% = 73%

(5) $\frac{7! \cdot 4!}{10!} = \frac{7! \cdot 4!}{10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4!} = \frac{7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5} =$

$\frac{4 \cdot 3 \cdot 2 \cdot 1}{10 \cdot 9 \cdot 8} = \frac{24}{720} \overset{24}{=} \frac{1}{30}$

alternativa "C"

6) $Pg1 + Pg2 + Pg3 + Pg4 = 1 + 3 + 3 + 1 = 8$ possibilidades.

$pg1 = \frac{1}{8}^2 \quad pg2 = \frac{3}{8}^2 \quad pg3 = \frac{3}{8}^2 \quad pg4 = \frac{1}{8}^2$

$\frac{1}{8} \cdot \frac{1}{8} = \frac{1}{64} \quad \frac{3}{8} \cdot \frac{3}{8} = \frac{9}{64} \quad \frac{3}{8} \cdot \frac{3}{8} = \frac{9}{64} \quad \frac{1}{8} \cdot \frac{1}{8} = \frac{1}{64}$

$\frac{1}{64} + \frac{9}{64} + \frac{9}{64} + \frac{1}{64} = \frac{20}{64} : 4 = \frac{5}{16}$

alternativa "D"

07) $C_{10,2} = \frac{10 \cdot 9!}{2 \cdot 1} = \frac{5 \cdot 9}{1} = 45$ casos possíveis.

$n(A) = \{$ comprou dia $5\} = \{6, 7, 11, 12, 14\}$, $n(A) = 5$.

$n(b) = \{$ comprou dia $10\} = \{11, 12, 14\}$, $n(b) = 3$

$n(c) = \{$ comprou dia $13\} = \{14\}$, $n(c) = 1$

$5 + 3 + 1 = 9$

$P = \frac{9}{45} = \frac{1}{5}$ //

alternativa "C" //

8) $\{(2,3),(3,2)\} = P_2$ [alternativa "D"]

9 n. total $\frac{2}{9}$

09) $C_{6,3} = \frac{6!}{3!} = \frac{6.5.4!}{3.2.1} = \frac{2.5.2}{1} = 20$

$P = \frac{12^2}{20^{:2}} = \frac{6^2}{10^{:2}} = \frac{3}{5}$