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CTII348

Probabilidade I

① ESCOLHER 2 n° IMPAR ENTRE 1 a 20  
ENTRE 1 a 20 - existem 10 n° impares

$$A = \{1, 3, 5, 7, 9, 11, 13, 15, 17, 19\}$$

01°  $n(A)$  tem 10 possibilidades, ENTRE 20

02°  $n(A)$  tem 9 possibilidades, ENTRE 19

$$P(A) = \frac{n(A)}{n(S)} \cdot \frac{n(A)}{n(S)} = \frac{10}{20} \cdot \frac{9}{19} = \frac{90}{380} = \frac{9}{38} \quad (A)$$

$$② S = \{1, 2, 3, 4, 5, 6\}$$

$$A = \{2, 4, 6\}$$

$$n(A) = 3$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{3}{6} = \frac{1}{2} = 50\% \quad (D)$$

③ 1000 pessoas entre elas, 17% fumantes

E ENTRE OS FUMANTES 44% são mulheres

Qual a probabilidade de uma pessoa ser fumante e mulher

$$17\% = 0,17$$

$$44\% = 0,44$$

$$0,17 = \frac{n(F)}{1000} \Rightarrow n(F) = 0,17 \cdot 1000 = 170 \text{ pessoas fumen}$$

$$0,44 = \frac{n(m)}{170} \Rightarrow n(m) = 0,44 \cdot 170 = 74,8 \approx 75$$

$$P(t) = \frac{n(t)}{n(S)} = \frac{75}{1000} \cdot \frac{15}{200} \cdot \frac{3}{40} = 0,075\%$$

(B)

$$④ A = \{2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37\}$$

$$C_{n2,2} = \frac{12!}{10! \cdot 2!} = \frac{12 \cdot 11 \cdot 10!}{10! \cdot 2!} = \frac{12 \cdot 11}{2 \cdot 1} = \frac{132}{2} = 66$$

$$n(S) = 66$$

$$A = \{(3, 5), (5, 7), (11, 13), (17, 19), (29, 31)\}$$

$$n(A) = 5$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{5}{66}$$

(B)

$$⑤ A = \{3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99\}$$

$$n(A) = 33$$

$$n(S) = 99$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{33}{99} = \frac{3}{9} = \frac{1}{3}$$

(B)

$$⑥ A = \{(1, 6), (6, 1), (2, 5), (5, 2), (3, 4), (4, 3)\}$$

$$n(A) = 6$$

$$n(S) = 6 \cdot 6 = 36$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{6}{36} = \frac{1}{6}$$

(c)