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Ex 01.) $P(A) = ?$ → Soma maior ou igual a 4

Probabilidade de ser maior que 4:

$P(D)$: (1,3), (1,4), (1,5), (1,6), (2,3), (2,4), (2,5), (2,6), (3,3), (3,4), (3,5), (3,6), (4,5), (4,6), (5,5), (6,6)

$P(U)$ = (1,1), (1,2), (1,3), (1,4), (1,5), (1,6), (2,2), (2,3), (2,4), (2,5), (2,6), (3,3), (3,4), (3,5), (3,6), (4,4), (4,5), (4,6), (5,5), (5,6) (6,6)

$$P(A) = \frac{P(D)}{P(U)} = \frac{17}{21}$$

$P(B) = ?$ → Soma ímpar

$P(D)$ = (1,2), (1,4), (1,6), (2,3), (2,5), (3,4), (3,6), (4,5), (5,6).

$$P(B) = \frac{P(D)}{P(U)} = \frac{9}{21} = \frac{3}{7}$$

$P(C) = ?$ → Um dos dados for 2:

$P(C)$ = (1,2), (2,2), (3,2), (4,2), (5,2), (6,2)

$$P(C) = \frac{P(D)}{P(U)} = \frac{6}{21} = \frac{2}{7}$$

$P(D) = ?$ → faces ≥ 3

$D(x) = (1,1), (1,2)$

$$P(D) = \frac{P(x)}{P(U)} = \frac{2}{21}$$

a.) $P(A) = \frac{17}{21}$

b.) $P(B/C) = \frac{P(B \cap C)}{P(B)} = \frac{P(B).P(C)}{P(B)} = \frac{\frac{3}{7} \cdot \frac{2}{7}}{\frac{3}{7}} = \frac{\frac{6}{49}}{\frac{3}{7}} = \frac{6}{49} \cdot \frac{7}{3} = \frac{42}{147}$

c.) $P(A \cap D) = P(A).P(D) = \frac{17}{21} \cdot \frac{2}{21} = \frac{34}{441}$

d.) $P(C \cup D) = P(C) + P(B) - (P(C) \cdot P(B))$

$$\frac{2}{7} + \frac{3}{7} - \left(\frac{2}{7} \cdot \frac{3}{7}\right) = \frac{5}{7} - \frac{6}{49} = \frac{35}{49} - \frac{6}{49} = \frac{29}{49}$$

Ex 02.) $0,0044 + 0,0099 = 0,0143 = 1,43\%$

Ex 03.) $P(1) = \frac{1}{6} \cdot \frac{4}{13} = \frac{4}{78} = \frac{2}{39}$

$P(\text{TOTAL}) = 24,22\%$

$P(2) = \frac{2}{6} \cdot \frac{2}{10} = \frac{4}{60} = \frac{2}{30}$

$P(3) = \frac{3}{6} \cdot \frac{2}{8} = \frac{3}{24}$

b.) Probabilidade uma 2 com bola vermelha: $\frac{2}{8} = 25\%$

Ex04.) a.) {(Co,Co), (CA,CA), (Co,CA), (Co,CA)}

b.) (Co,CA) ou (CA,Co) = 32%.

c.) (CA,CA), (Co,CA), (CA,Co) = 96%

d.) (Co,Co), (CA,CA) = 68%.

Ex05.) Espaço Amostral = 16

$\frac{4}{16} = \frac{1}{4}$

Ex06.) a.) $P(x>2) = P(3) + P(5) \rightarrow \frac{2}{8} + \frac{5}{8} = \frac{7}{8} = 87,5\%$

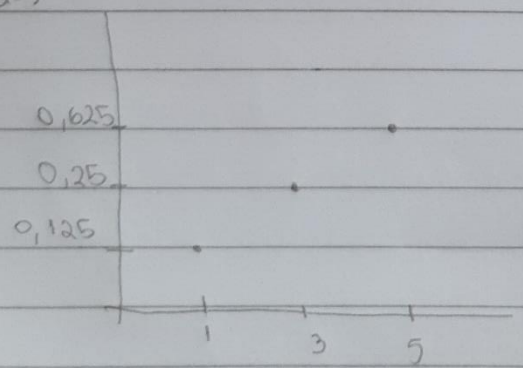
b.) $P(x \leq 2) = P(1) = \frac{1}{8} = 12,5\%$

c.) $E(x) = (1 \cdot 1/8) + (3 \cdot 2/8) + (5 \cdot 5/8) = 4$

d.) $V(x) = E(x^2) = (1^2 \cdot 1/8) + (3^2 \cdot 1/8) + (5^2 \cdot 5/8) = 18$

$V(x) = E(x^2) - [E(x)]^2 = 18 - 16 = 2$

d.)



Ex 07) a) (i, j): i=1 → (1,1)

i=2 → (1,2), (2,1), (2,2)

i=3 → (1,3), (3,1), (2,3), (3,2), (3,3)

i=4 → (1,4), (4,1), (2,4), (4,2), (3,4), (4,3), (4,4)

i=5 → (1,5), (5,1), (2,5), (5,2), (3,5), (5,3), (4,5), (5,4), (5,5)

i=6 → (1,6), (6,1), (2,6), (6,2), (3,6), (6,3), (4,6), (6,4), (5,6), (6,5), (6,6)

b.) (1,1), (2,2), (3,3), (4,4), (5,5), (6,6)

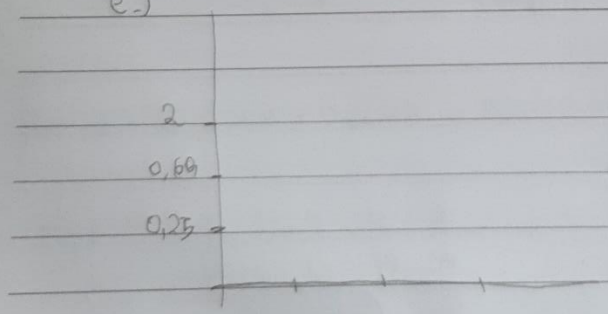
c.) total amostras → 36

$P(x<3) = \frac{9}{36} = \frac{1}{4} = 0,25$

$P(x \geq 3) = \frac{25}{36} = 0,69$

d.) $P(x>2 / x<5) = \frac{\frac{32}{36}}{\frac{16}{36}} = \frac{32}{36} \cdot \frac{36}{16} = 2$

e.)



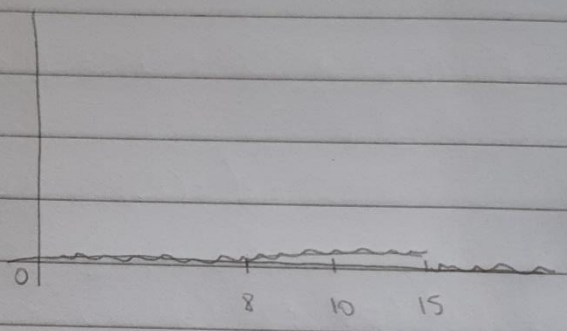
Ex08-) a-) $\frac{9}{11} = 81,81\%$

b-) $\frac{11}{11} = 100\%$

c-)

d-)

Ex0,9-) a-)



b-)