3. Зад. I - $\frac{2}{3}$ вероятност да улучи

    II - ? x

    I и II - $\frac{1}{2}$

Решение: $\frac{2}{3} \cdot x = \frac{1}{2} \Rightarrow x = \frac{1}{2} \cdot \frac{3}{2} = \frac{3}{4}$

$\frac{1}{2} = P(I \cup II) = P(I \cup II | I) \cdot P(I) + P(I \cup II | \bar{I}) \cdot P(\bar{I}) = x \cdot \frac{2}{3}$

$\overset{\shortparallel}{0}$

Зад.

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

$P(A) = 60\%$ > 1 официно лекар

$P(B) = 17\%$ - хирург

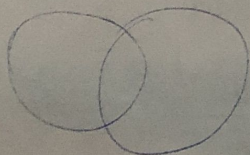$P(B|A) 15\%$ от клиенти, пошто посещават >1 од лекар, посещават и хирург

Въпрос: само веднъж лекар да не е бил на хирург = $P\left(\begin{array}{c}\text{не е бил}\\\text{при хирург}\end{array} \Big| \begin{array}{c}\text{веднъж}\\\text{на лекар}\end{array}\right)$?

$A = \{ >1 \text{ од лекар} \}$

$B = \{ \text{посещават хир} \}$

$P(\bar{A}) = 1 - P(A)$

$\cancel{P(A)\bar{A} = \frac{\ldots}{100}}$

$P(\bar{B}|\bar{A}) = ?$

1. $P(A \cap B) = ? = P(B|A) P(A) = \frac{15}{100} \cdot \frac{3}{5} = \frac{9}{100} = 9\%$

2. $P(\bar{B}|\bar{A}) = \frac{P(\bar{B} \cap \bar{A})}{P(\bar{A})} = \frac{P(\overline{A \cup B})}{P(A)} =$

    $\underline{\bar{A} \cap \bar{B} = \overline{A \cup B}}$

$= \frac{1 - P(A \cup B)}{40\%} =$

$= \frac{1 - P(A) - P(B) + P(A+B)}{\frac{2}{5}} = \frac{13\% + 9\%}{40\%}$

Зад. два зара

$A = \{ I + II - \text{четна} \}$

$B = \{ \text{сумата} < 8 \}$

$P(B|A) = ?$ независими ли са?

$P(B|A) = \frac{P(A \cap B)}{P(A)} = \frac{1}{3} \cdot 2 = \frac{2}{3}$

$P(A) = \frac{2+4+6+4+2}{36} = \frac{1}{2}$ 2 3 4 5 6 7

$P(B) = \frac{1+2+3+4+5+6+\cancel{8}}{36} = \frac{21}{36} = \frac{7}{12}$ 2 3 4 5 6 7 8 9 10 11 12

$P(A \cap B) = \frac{2+4+6}{36} = \frac{1}{3}$

Не са независими, т.к.

1. $P(A) P(B) = \frac{1}{2} \cdot \frac{7}{12} \neq P(A \cap B) = \frac{1}{3}$

2. $P(B|A) = \frac{2}{3} \neq P(B) = \frac{7}{12}$

сума	2	3	4	5	6	7	8	9	10	11	12
брой	1	2	3	4	5	6	5	4	3	2	1