

TEMA PROBABILIDAD 10 Bach B

① $P(A) = 0,84$
 $P(B) = 0,5$
 $P(\bar{A} \cup \bar{B}) = 0,58$

a) $P(\bar{A} \cup \bar{B}) = P(\overline{A \cap B}) = 1 - P(A \cap B) = 0,58 \Rightarrow P(A \cap B) = 0,42$

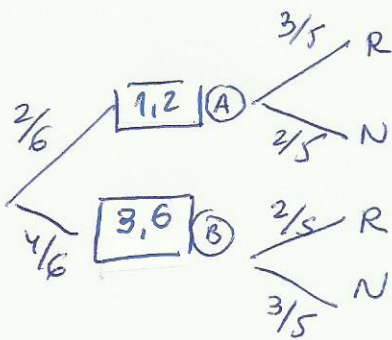
$P(A \cap B) \stackrel{?}{=} P(A) \cdot P(B)$

$0,42 = 0,84 \cdot 0,5$ Si son independientes

b) $P(A \cap \bar{B}) = P(A) - P(A \cap B) = 0,84 - 0,42 = 0,42$

c) $P(B/\bar{A}) = \frac{P(B \cap \bar{A})}{P(\bar{A})} = \frac{P(B) - P(B \cap A)}{1 - P(A)} = \frac{0,5 - 0,42}{1 - 0,84} = \frac{0,08}{0,16} = 0,5$

②

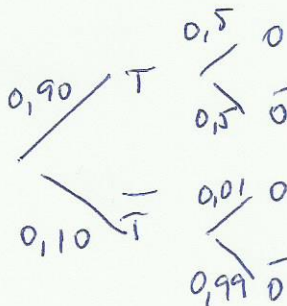


a) $P(R) = \frac{2}{6} \cdot \frac{3}{5} + \frac{4}{6} \cdot \frac{2}{5} = \frac{6}{30} + \frac{8}{30} = \frac{14}{30} = 0,46$

b) $P(B/R) = \frac{P(B \cap R)}{P(R)} = \frac{\frac{4}{6} \cdot \frac{2}{5}}{\frac{14}{30}} = \frac{8}{14} = 0,57$

b) $P(N \cap A) = \frac{2}{6} \cdot \frac{2}{5} = \frac{4}{30}$

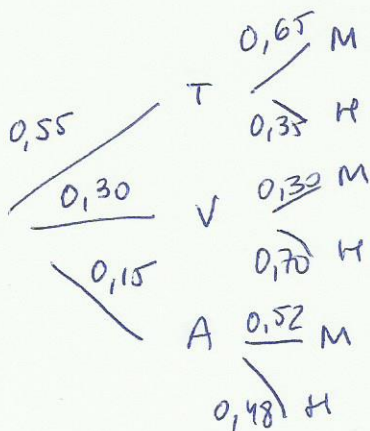
③



a) $P(O) = 0,90 \cdot 0,5 + 0,10 \cdot 0,01 = 0,451$

b) $P(T/O) = \frac{P(T \cap O)}{P(O)} = \frac{0,90 \cdot 0,5}{0,451} = 0,997$

④



a) $P(H) = 0,55 \cdot 0,35 + 0,30 \cdot 0,70 + 0,15 \cdot 0,48 = 0,4745$

b) $P(A/H) = \frac{P(A \cap H)}{P(H)} = \frac{0,15 \cdot 0,52}{0,4745} = 0,1643$

c) $P(M/T) = \frac{P(M \cap T)}{P(T)} = \frac{0,55 \cdot 0,65}{0,55} = 0,65$

⑤

	B	\bar{B}	
A	12	46	58
\bar{A}	23	19	42
	35	65	100

a) $P(\bar{A} \cap \bar{B}) = \frac{19}{100} = 19\%$

b) $P(A/\bar{B}) = \frac{P(A \cap \bar{B})}{P(\bar{B})} = \frac{46}{65} = 0,707$
 $= \frac{46}{65} = 70,7\%$

c) $P(A \cap \bar{B}) + P(\bar{A} \cap B) = \frac{46}{100} + \frac{23}{100} = \frac{69}{100} = 69\%$