

$$P(A|B) = P(A)$$

$$\frac{P(A \cap B)}{P(B)} = P(A)$$

Moltiplico entrambi i membri per $P(B)$

$$\cancel{P(B)} \cdot \frac{P(A \cap B)}{\cancel{P(B)}} = P(A) \cdot P(B)$$

$$P(A \cap B) = P(A) \cdot P(B)$$

$$\frac{1}{6} \cdot \frac{1}{6} \cdot \frac{1}{6}$$

$$36 \cdot 6$$

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

$$P(A|B) \cdot \cancel{P(B)} = \frac{P(A \cap B) \cdot \cancel{P(B)}}{\cancel{P(B)}}$$

$$P(A|B) \cdot P(B) = P(A \cap B)$$

Analogamente

$$P(B|A) = \frac{P(B \cap A)}{P(A)}$$

$$P(B|A) \cdot \cancel{P(A)} = \frac{P(B \cap A) \cdot \cancel{P(A)}}{\cancel{P(A)}}$$

$$P(B|A) \cdot P(A) = P(B \cap A)$$

$$P(B \wedge A) = P(A \wedge B)$$

$$P(B/A) \cdot P(A) = P(A/B) \cdot P(B)$$

$$\frac{P(B/A) \cdot \cancel{P(A)}}{\cancel{P(A)}} = \frac{P(A/B) \cdot P(B)}{\cancel{P(A)}}$$

$$P(B/A) = \frac{P(A/B) \cdot P(B)}{P(A)}$$

$$P(A|B_i) = \frac{P(A \wedge B_i)}{P(B_i)}$$

$$P(A|B_i) \cdot \cancel{P(B_i)} = \frac{P(A \wedge B_i)}{\cancel{P(B_i)}} \cdot \cancel{P(B_i)}$$

$$P(A \wedge B_i) = P(A|B_i) \cdot P(B_i)$$

$$\neg((\neg a \wedge b) \rightarrow \neg c)$$

$$\neg(\neg(\neg a \wedge b) \vee c)$$

$$\downarrow$$

$$\neg(a \vee \neg b \vee \neg c) = \neg a \wedge b \wedge c$$

q	b	c	$\neg q$	$\neg q \wedge b$	$\neg q \wedge c$	Sol
0	0	0	1	0	0	0
0	0	1	1	0	0	0
0	1	0	1	1	0	0
0	1	1	1	1	1	1
1	0	0	0	0	0	0
1	0	1	0	0	0	0
1	1	0	0	0	0	0
1	1	1	0	0	0	0

$$(p \rightarrow q) \wedge (\neg p \vee \neg q)$$

$$(\neg p \vee q) \wedge (p \vee \neg q)$$

p	q	$\neg p$	$\neg q$	$\neg p \vee q$	$p \vee \neg q$	Sol
1	1	0	0	1	1	1
1	1	0	0	1	1	1
1	0	0	1	0	0	0
1	0	0	1	0	0	0
0	1	1	0	1	1	1
0	1	1	0	1	1	1
0	0	1	1	0	0	0
0	0	1	1	0	0	0
1	1	0	0	1	1	1
1	0	0	1	0	0	0
0	1	1	0	1	1	1
0	0	1	1	0	0	0
1	1	0	0	1	1	1
1	0	0	1	0	0	0
0	1	1	0	1	1	1
0	0	1	1	0	0	0

$$\frac{\cancel{10^5 - 1}}{10^5} \cdot \frac{\cancel{10^5 - 2}}{\cancel{10^5 - 1}} \cdot \frac{10^5 - 3}{\cancel{10^5 - 2}} = \frac{10^5 - 3}{10^5}$$

Quindi la probabilità di indovinare entro i primi 3 tentativi è:

$$\text{prob. totale} \leftarrow \textcircled{1} - \frac{10^5 - 3}{10^5} = \frac{3}{10^5}$$