$$\mathbb{P}(B|A) = \lim_{n\to\infty} \frac{\mathbb{P}(B \cap A_n)}{\mathbb{P}(A_n)}$$

$(A_n \to A)$

$$= \frac{\mathbb{P}(B \cap C_n)}{\mathbb{P}(C_n)}$$

$\bigcap_n C_n = A$

$\bigcap_n A_n = A$

$A_1 \supset A_2 \supset \dots$

$\mathbb{P}(A_n) \to 0$

$(A = \frac{1}{2})$

$C_n =$