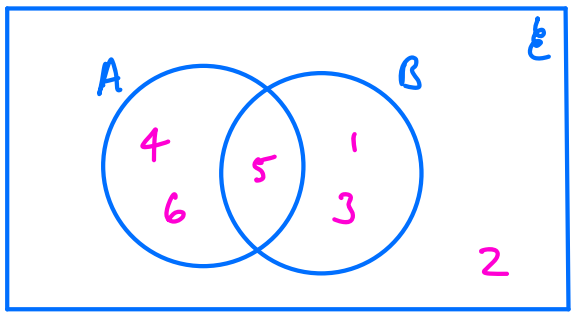
Conditional Probability

Roll a dice

Let A be event score greater than 3

Let B be event score is odd

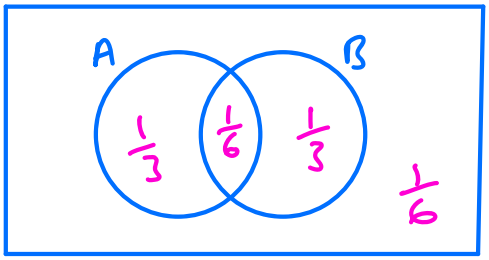


$P(A) = \frac{3}{6} = \frac{1}{2}$

$P(B) = \frac{3}{6} = \frac{1}{2}$

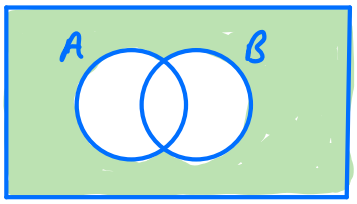
$$P(A \setminus B) = \frac{P(A \cap B)}{P(B)} = \frac{\frac{1}{6}}{\frac{3}{6}} = \frac{1}{6} \times \frac{6}{3} = \frac{1}{3}$$

Alternative Diagram



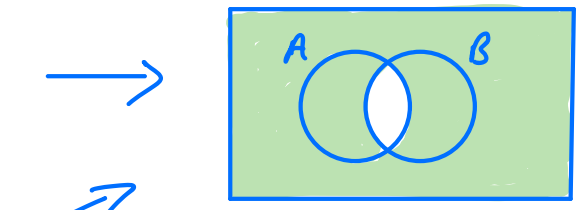
Interesting Results

$(A \cup B)'$ →



$A' \cap B'$ →

$(A \cup B)' = A' \cap B'$

$(A \cap B)'$ 

$A' \cup B'$

$(A \cap B)' = A' \cup B'$