

Conditional probability

Probability of **X** given that **Y** happened:

$$P(X|Y) = \frac{P(X, Y)}{P(Y)}$$

Diagram illustrating the components of the conditional probability formula:

- Conditional**: Points to the expression $P(X|Y)$.
- Joint**: Points to the numerator $P(X, Y)$.
- Marginal**: Points to the denominator $P(Y)$.

