

# Cheatsheet for Math Exercises

## Probability and Conditional Probability

Value	Description	Formula
$\text{P}(A)$	Probability of event A occurring.	$\text{P}(A) = \frac{\text{Number of favorable outcomes for } A}{\text{Total number of possible outcomes}}$
$\text{P}(A \mid B)$	Conditional probability of event A occurring, given that event B has occurred.	$\text{P}(A \mid B) = \frac{\text{P}(A \cap B)}{\text{P}(B)}$
$\text{P}(A \cap B)$	Probability of both events A and B occurring.	In general: $\text{P}(A \cap B) = \text{P}(A) \cdot \text{P}(B \mid A)$ If A and B are independent events, then: $\text{P}(A \cap B) = \text{P}(A) \cdot \text{P}(B)$
$\text{P}(A \cup B)$	Probability that event A or event B (or both) occur.	$\text{P}(A \cup B) = \text{P}(A) + \text{P}(B) - \text{P}(A \cap B)$

## Information Theory

## Combinatorics

From:

<https://edu.iit.uni-miskolc.hu/> - Institute of Information Science - University of Miskolc

Permanent link:

[https://edu.iit.uni-miskolc.hu/tanszek:oktatas:techcomm:formulas\\_for\\_mathematical\\_exercises?rev=1725624169](https://edu.iit.uni-miskolc.hu/tanszek:oktatas:techcomm:formulas_for_mathematical_exercises?rev=1725624169)

Last update: 2024/09/06 12:02

