

## Def. Statement

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Any sentence that is either **TRUE** or **FALSE** but not both.

Often, statements are represented by using a letter such as **p** or **q**.

## **Def. Truth Value**

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**The determination of a statements veracity.  
In other words, determining if a statement is  
TRUE or FALSE.**

## Def. Negation

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A statement that has the opposite **TRUTH-VALUE** of a given statement.

To form the negation of a statement, you simply **ADD** or **REMOVE** the word **NOT**.

The symbol for **NOT** is  $\sim$

## Def. Conjunction

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A compound statement formed by joining two or more statements with the word *and*.

Symbol:  $p \wedge q \Rightarrow$  Read *p and q*

A conjunction is **TRUE** only when **BOTH** statements are **TRUE**.

## Def. Disjunction

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A compound statement formed by joining two or more statements with the word *or*.

Symbol:  $p \vee q \Rightarrow$  Read  $p$  or  $q$

A disjunction is **TRUE** if at least one of the statements is **TRUE**.

## **Def. Truth table**

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**A convenient method for organizing the truth values of statements.**

$$p \wedge \sim q$$

$p$	$q$	$\sim q$	$p \wedge \sim q$

## Venn Diagrams

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