

# Glossary

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This is intended to be a list of basic definitions for common things in math. This will likely be updated as the year goes on, the most recent version will be at [www.MckinleyX.github.io/files/glossary.pdf](http://www.MckinleyX.github.io/files/glossary.pdf).

If you think something should be added to the list, or I've made an error, contact me!

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## §1 Common symbols

Here's a list of some of the more common symbols you'll see:

$\forall$  — for all

$\exists$  — there exists

$\in$  — is an element of

$\therefore$  — because

$\therefore$  — therefore

$\mathbb{Z}$  — the set of all integers

$\mathbb{Z}^+$  — the set of all positive integers

$\mathbb{Z}^*$  — the set of all nonnegative integers

$\mathbb{R}$  — the set of all real numbers

$a \mid b$  —  $a$  divides  $b$

$\square$  — Used to denote the end of a proof. There are a *lot* of ways to do this, but this is what I use.

$\implies$  — implies.  $p \implies q$  if  $q$  is true whenever  $p$  is true. (Note that if  $p$  is false  $q$  is not necessarily false.)

## §2 Less common symbols

Here are some symbols that are less common:

$\mathbb{Q}$  — the set of all rational numbers

$\mathbb{C}$  — the set of all complex numbers

$\binom{n}{r}$  —  $n$  choose  $r$

$\iff$  — if and only if, commonly abbreviated as “iff”.  $p \iff q$  means that both  $p \implies q$  and  $q \implies p$ .