

Definitions

Term	Notation Example(s)	We say in English ...
sequence	x_1, \dots, x_n x_1, \dots, x_n where $n = 0$ x_1, \dots, x_n where $n = 1$ x_1, \dots, x_n where $n = 2$ x_1, x_2	A sequence x_1 to x_n An empty sequence A sequence containing just x_1 A sequence containing just x_1 and x_2 in order A sequence containing just x_1 and x_2 in order
all integers	\mathbb{Z}	The (set of all) integers (whole numbers including negatives, zero, and positives)
all positive integers	\mathbb{Z}^+	The (set of all) strictly positive integers
all natural numbers	\mathbb{N}	The (set of all) natural numbers. Note: we use the convention that 0 is a natural number.
function rule definition	$f(x) = x + 4$	Define f of x to be $x + 4$
piecewise rule definition	$f(x) = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$	Define f of x to be x when x is nonnegative and to be $-x$ when x is negative
function application	$f(7)$ $f(z)$ $f(g(z))$	f of 7 or f applied to 7 or the image of 7 under f f of z or f applied to z or the image of z under f f of g of z or f applied to the result of g applied to z
absolute value	$ -3 $	The absolute value of -3
square root	$\sqrt{9}$	The non-negative square root of 9