

# Number Sets • new values underlined



**N** - Natural numbers  
(1, 2, 3, 4, ...  $\infty$ )

**W** - Whole numbers  
(0, 1, 2, 3, 4, ...  $\infty$ )

**Z** - Integers  
( $-\infty$ , ..., -3, -2, -1, 0, 1, 2, 3, 4, ...  $\infty$ )

**Q** - Rational numbers

( $-\infty$ , ..., -3, -2.5, -2, -1,  $-\frac{1}{2}$ , 0, 1, 2,  $\frac{5}{3}$ , 3, 3.189, 4, ...  $\infty$ )

**R** - Real numbers

( $-\infty$ , ..., -3, -2.5, -2, -1,  $\frac{1}{2}$ , 0, 1,  $\sqrt{2}$ ,  $\sqrt{3}$ , 2,  $\frac{5}{3}$ ,  $\sqrt{7}$ , 3,  $\pi$ , 3.189, 4, ...  $\infty$ )

Domain: Set of all possible Input ("x") Values for a given Function.

Interval Notation		Set Builder Notation	
*Only used for <u>Continuous</u> Function		Used for <u>Continuous</u> or <u>Discrete</u> Functions	
$(-\infty, \infty)$ • Negative Infinity To Positive Infinity		$\{x   x \in \mathbb{N}\}$ • X, such that x is an element of the Natural #'s.	
$(-\infty, 4]$ • Negative Infinity to 4, Including 4		$\{x   x \in \mathbb{R}, x \leq 4\}$ • X, such that X is an element of the real #'s less than or equal to 4	
$[-3, \infty)$ • -3 to Positive Infinity, Including -3		$\{x   x \in \mathbb{Z}, x \geq -3\}$ • X, such that X is an Element of the Integers greater than or equal to -3.	
$(-3, 4]$ • -3 to 4, Including 4 not -3		$\{x   x \in \mathbb{R}, -3 < x \leq 4\}$ • X, such that X is an element of the Real #'s between -3 and 4, including 4.	
( - Not Included	[ - Included	{ - Set	- Such That
			∈ - Is an Element