

## Accelerated Algebra

## Special Notation

$\mathbb{R}$  = the set of real numbers

$\mathbb{Q}$  = the set of rational numbers =  $\left\{ \frac{p}{q} \mid p, q \text{ are integers and } q \text{ is nonzero} \right\}$

$\mathbb{Z}$  = the set of integers =  $\{ \dots - 3, -2, -1, 0, 1, 2, 3, \dots \}$

$\mathbb{N}$  = the set of natural numbers = counting numbers =  $\{1, 2, 3, 4, 5, \dots\}$

$\emptyset$  = the empty set = the set containing no elements

$\forall$  means “for all”

$\exists$  means “there exists”

$\exists!$  means “there exists unique”

$\in$  means “is an element of”

$\cup$  means “union” (or – two or more sets combined altogether)

$\cap$  means “intersection” (and – where two or more sets overlap)

$<$  means “is strictly less than”

$>$  means “is strictly greater than”

$\leq$  means “is less than or equal to”

$\geq$  means “is greater than or equal to”

$\infty$  is the symbol for infinity, which means to continue forever in the positive direction

$-\infty$  is the symbol for negative infinity, which means to continue forever in the negative direction