BRIEF TABLE OF IDEAS, SYMBOLS, and NOTATION

Each section in this book has a SECTION SUMMARY that provides easy access to the important topics from that section. Several entries are included here, for the reader's convenience. Don't worry about any unfamiliar words or symbols—they will be discussed in detail throughout the book.

IDEA/SYMBOL/NOTATION	HOW TO READ	MEANING (and section of first appearance)
$a = b$	'a equals b' or 'a is equal to b'	A mathematical sentence: true, when a and b live at the same place on a real number line; false, otherwise. This type of sentence is called an *equation*. (2)
common uses for variables		to state a general principle; to represent a sequence of operations; to represent an 'unknown' (4)
expression		The mathematical analogue of an English noun; a name given to a mathematical object of interest. Most common expression types: numbers, sets, functions. (1)
hand-writing variables j　k　ℓ　m　n	write $\mathcal{X}$, NOT $\times$ write y , NOT $\times$ write z , NOT z write t , NOT $\dagger$ write ι , NOT i write ℓ , NOT $\mid$	Try to duplicate an italic typestyle when hand-writing variables, to prevent confusion. (4)
inequality		a mathematical sentence that uses one of the four verbs: $<$, $\le$, $>$, $\ge$ (5)
sentence		The mathematical analogue of an English sentence; must state a complete thought; makes sense to ask if a sentence is true, false, sometimes true/sometimes false. (1)
simplifying an expression		To get a different name for the expression that in some way is simpler: fewer symbols, fewer operations, better suited for current use, preferred style/format. (1)
solving a sentence		the process of determining when a sentence is *true* (4)
variable; universal set		A variable is a symbol (usually a letter) used to represent a member of a specified set. This specified set is called the variable's *universal set*. (4)