Unit 1 (part 2) : <u>Equations and Inequalities</u>

Book sections covered here:
Chapter 2: Sections 2-1 through 2-7. NOT including sections 2-8 and 2-9.

Equations – Solving (cont.)

Term(s)	Words of wisdom	comments
Zero products	$a * b = 0$ iff $a = 0$ or $b = 0$	
Formula		Solving in terms of other symbols.

Inequalities – Solving

Term(s)	Words of wisdom	comments
Inequalities	$< \; ; \; \leq \; ; \; > \; ; \; \geq$	
Graph on the number line		

Multiplication property of inequality.
Multiplying by:
   Positive number
 	
   Negative number
 	
   Zero		

Compound Inequalities – Solving

Term(s)	Words of wisdom	comments
Conjunction, AND (intersection)		
Disjunction, OR (union)		

Absolute Value

Term(s)	Words of wisdom	comments
Distance from 0 on a number line		
Properties: $$\|a * b\| = \|a\| * \|b\|$$ $$\left\|\frac{a}{b}\right\| = \frac{\|a\|}{\|b\|}$$ $\|a^n\| = a^n$ in SOME cases. E.g.: If n is even integer		
Distance between two numbers		

Absolute Value – Equations and Inequalities

Term(s)	Words of wisdom	comments
$\|x\| = 5 \rightarrow x = 5$ or $x = -5$		
$\|x\| < 5 \rightarrow -5 < x$ and $x < 5$		
$\|x\| > 5 \rightarrow x < -5$ or $x > 5$		