



## Vocabulary: Absolute Value Equations and Inequalities



### Vocabulary

- Absolute value – the distance a number is from 0 on the number line.
  - The expression  $|x|$  represents the absolute value of  $x$ .
  - The absolute value of a number, regardless of whether the number is negative or positive, is never negative.
    - Examples:  $|-4| = 4$ ,  $|4| = 4$ , and  $|0| = 0$ .
- Compound inequality – a combination of more than one inequality.
  - Compound inequalities contain *and* or *or*.
- Equation – a mathematical sentence that states that two expressions are equal.
  - The two equal expressions in an equation are written with an *equals sign* (=) between them.
    - For example, the equation  $x + 3 = 7$  shows that  $x + 3$  and 7 are equal.
- Inequality – a statement that compares two quantities or expressions that are not equal.
  - A *strict inequality* uses one of the following symbols:  $<$  (less than),  $>$  (greater than), or  $\neq$  (not equal to).
    - Examples of strict inequalities are  $x > 2$ , and  $x + 1 < 5$ .
  - Inequalities that are not strict use the symbols  $\leq$  (less than or equal to) or  $\geq$  (greater than or equal to).
    - Examples of inequalities that are not strict are  $x \leq 6$ , and  $2x \geq 4$ .
- Solution – a value that makes an equation or inequality true.
  - For example, 3 is a solution of the inequality  $2x \leq 8$  because  $2(3) \leq 8$ .

