Pathways Reading Guide M2 I7
Absolute Value

Please read Module 2, section 6 in your e-book, pp. 49 – 53. (Click on Module 2, then "text.")

Be sure to *read with a pencil in hand* and attempt the examples before you read the solution given. Take notes of important definitions and ideas as you read. I don't expect you to have 100% comprehension of everything in the section, but spending significant time trying to understand the main ideas will assist you as you work on the Investigation during our next class.

Key Ideas:
1. The absolute value refers to distance on the number line
2. The notation $|x - \text{first number}| < \text{second number}$ refers to all the numbers that are WITHIN the second number of units from the first number. For example $|x - 10| < 3$ refers to all numbers that are within 3 units of 10.
3. The notation $|x - \text{first number}| > \text{second number}$ refers to all the numbers that are GREATER THAN the second number of units from the first number. For example $|x - 10| > 3$ refers to all numbers that are more than 3 units from 10.

Be able to:

- Understand absolute value as giving distance on the number line;
- List several values that meet a constraint such as, "find an *x* value within *y* units of a given number;"
- Write an inequality without absolute value given the above constraint;
- Sketch a graph of the inequality on the number line;
- Write an inequality using absolute value to represent the above statement;
- Repeat this process for a constraint like, "find an *x* value at least *y* units from a given number;"
- Given an inequality with absolute value, rewrite the statement without absolute value.