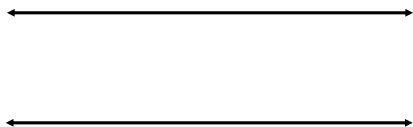


7.1 Absolute Value

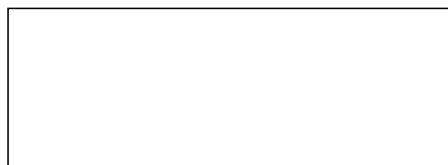
* The absolute value of a real number is its from zero on a number line.

ex.



Consequently:

We can conclude that:



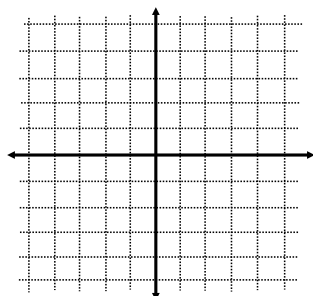
* When evaluating an expression with an absolute value, it operates as a In other words, consider it in the order of operations.

ex. $3 - 2|-12 + 8| =$

ex. $|12(-3) + 5 - 3(4+5)^2|$

Applications: We often use absolute values to calculate distances or total variations in values.

ex. Consider the points A(-4, 3) and B(2, -5). What is the horizontal and vertical distance between the points?



$d_{\text{horiz.}} =$

$d_{\text{vert.}} =$

ex. Consider the points A(-4, y) and B(x, -5). What is the horizontal and vertical distance between the points?

$d_{\text{horiz.}} =$

$d_{\text{vert.}} =$

ex. A father with 4 kids must drive them to their Saturday activities. The diagram below illustrates the distances and the route followed. How many total kilometers did the father drive?

