**ABSOLUTE VALUE**

The ***absolute value*** of a real number *a* is thenumberof unitsfrom *a* to 0on a number line; an absolute value cannot be negative.

0

The absolute value of *a* is written as | *a* |

The absolute value of 7 is written as | 7 |

The absolute value of 0 is written as | 0 |

The absolute value of -5 is written as | -5 |

Sometimes the absolute value does not change what is between the vertical lines; sometimes the absolute value changes what is between the vertical lines to its opposite.



| *a* |  =   *a* when *a* is | *a* |  =  −*a* when *a* is



The Mathematical Definition for Absolute Value

|*x*|  =  



**Evaluate:**



a) | 6 − 4 | b) | 4 − 6 |



| *x* −  *b* |  =    *x*−  *b* when



| *x* −  *b* |  =  −(*x*− *b*) when



Absolute value can be used to ensure an expression will not be negative.



Does | 6  −  4 | equal | 4  −  6 | ? \_\_\_\_\_\_ Does | *x*  −  *b* | always equal | *b*  −  *x* | ?\_\_\_\_\_\_



The absolute value of a sum or difference should not be written as the sum or difference of separate absolute values. Use BEDMAS to evaluate:



a) | 4  +  −6 | b) | 4 |  +  | −6 | c) | 4 |  −  | 6 |



Use BEDMAS to evaluate each of the following:



a)  b)  c) 



**Example**: A particular stock on the TSX opened the month at $13.55/share, dropped to $12.70/share, increased to $14.05/share and closed the month at $13.85.



a) Determine the **total change** in the value of the stock for the month.



b) Determine the **net change** in the value of the stock for the month.



After question at boards, do: Assignment: #1-6, 1-=12, 19, 21-22, 25