SECTION-5: Broken-Symmetry (BS) Math

Why the BS Rule-of-Signs is ILLOGICAL!

It took four year of study to discover why a $(-)(-)=(+)$ only works in an imaginary world where space in the dash (-) direction is different from space in the cross (+) direction.

Started working on the problem in August of 2001; solved in January of 2005.

January 7, 2005: Solutions found to BS math dash, cross codes.

BS Math: Rule-of-Signs ILLOGICAL

$(-)(-)=(+)$ negative times a negative equals a positive

$(-)(+)=(-)$ negative times a positive equals a negative

$(+)(+)=(+)$ positive times a positive equals a positive

In BS math, no distinction is made between a subtraction operator and an addition operator and a direction in space. This is where the problem exists. Data points created using BS math produce graphs that are not symmetrical; dash side different from cross side (examples will be shown later). However, if a real problem's data points follow the non-symmetrical graph, the graph can provide usable answers. This is why no one discovered the problem.

Symmetry-Math (SM): If we specify that the dash sign (-) means only subtraction and the cross sign (+) means only addition and an appropriate symbol is used for a direction in space, space becomes symmetrical. Math operators and directions in space are not the same and the same symbol should not be used to represent them. LOGICAL

$\overbrace{(-)}^{dash}$ multiplied by a $\overbrace{(-)}^{dash} = \overbrace{(+)}^{cross}$

$\underbrace{negative}_{left}$ $\underbrace{negative}_{left}$ $\underbrace{positive}_{right}$

BS Math: Usable answers may be obtained, but the reasoning is illogical.

$\overbrace{-}^{subtraction\ direction}\ (\leftarrow) = \overbrace{(\rightarrow)}^{opposite\ direction}$

SM: Logical

The subtraction of a direction is equal to the opposite direction. The answers are correct using correct logic. There is NO multiplication of a subtraction operator by a direction in space. There is just the subtraction of a direction in space. If instead of labeling the left side of a coordinate system as a negative (-), the same as a subtraction operator, we label it with an arrow ($\leftarrow$) to represent the direction. Then, a subtraction from that direction will be in the opposite direction ($\rightarrow$).

negative subtraction direction–left dash		*Positive addition direction–right cross*	*negative subtraction direction–left dash*
(–)	mutiplied by a	(+)	= (–)

BS Math:

- A negative (whatever that means) multiplied by a positive (whatever that means) is equal to a negative. This is illogical
- A subtraction operator multiplied by an addition operator is equal to a subtraction operator. This is illogical.
- A direction to the left multiplied by a direction to the right is a direction to the left. This is illogical
- A dash multiplied by a cross is equal to a dash. This is illogical

subtraction direction		opposite of direction
–	($\rightarrow$) =	($\leftarrow$)

SM: Logical

The subtraction of a direction is equal to the opposite direction.

positive addition cross		*positive addition cross*	*positive addition cross*
(+)	*multiplied.by.a*	(+)	= (+)

BS Math: What is the meaning of multiplying addition operators? They are separate math functions.
Illogical

number		
(#)	multiplied by a direction ($\rightarrow$)=($\vec{\#}$)	

number		
(#)	multiplied by a direction ($\leftarrow$)=($\overleftarrow{\#}$)	

SM: A number times a direction maintains the same direction.
Logical

add	*dir*	*dir*
+	($\leftarrow$) =	$\leftarrow$

add	*dir*	*dir*
+	($\rightarrow$) =	$\rightarrow$

SM: The addition of a direction is in the same direction. There is no multiplication of addition operators. Logical

For hundreds of years, BS has obtained usable answers to certain equations. Math books need to be changed to eliminate the use of the cross sign (+) to represent something labeled a positive direction in space and the use of a dash sign (-) to represent something labeled a negative direction in space. Space does not have positive and negative directions.
SM symbols will be:

$\rightarrow, \leftarrow, \uparrow, \downarrow, \swarrow \nearrow$

or

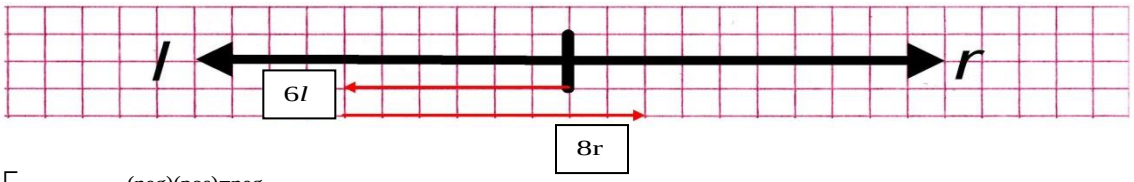
$>, <, \wedge, \vee, \odot, \otimes$

Here is an example using SM:
What is the resultant direction and magnitude of the following arrows: 6 units to the left and 8 units to the right?

direction resultant opposite direction

$(\overleftarrow{6})$ & $(\overrightarrow{8})$ $= \overrightarrow{2}$

Using BS math:



(neg)(pos)=neg

negative sub positive positive

(-6) – (+8) = +2

a direction to the left times a subtraction operator = a direction to the right

(negative times a negative= positive) (a dash times a dash = cross)

In BS:

- The first dash"-"in front of the six (-6) <u>does not</u> mean to subtract; it means six units to the left of zero.
- The second dash"-"between the 6 and the 8, <u>does</u> mean to subtract.
- The cross "+"in front of the 8 <u>does not</u> mean to add. It means a direction; go 8 units to the right of where the (-6) arrow stopped.
- BS math now multiplies a subtraction operator by a direction to the right and changes both symbols to something called a negative.
- BS math now multiplies a direction to the left by this negative symbol and changes it to a positive symbol.

Again, BS math may provide a usable answer, but it is ILLOGICAL.