ALGEBRA I ACTIVITY 1:
BINOMIAL MULTIPLICATION
TIalgebra.com

ACTIVITY OVERVIEW:
In this activity we will

- Enter an expression showing the multiplication of two binomials into Y1 in an equation that can be graphed.
- Multiply the binomials and enter the result into Y2 to verify that the graph remains the same.
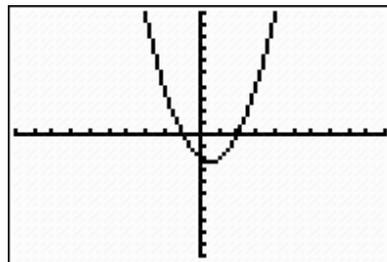- Combine like terms and enter the result into Y3 to verify.

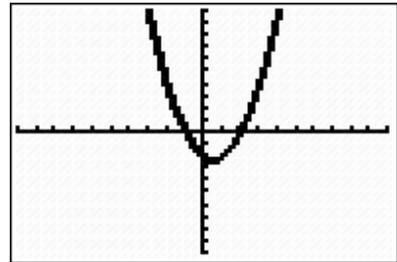|	
First start by entering the expression shown in the $\boxed{Y=}$ menu.	Plot1 Plot2 Plot3 \Y1■(X-2)(X+1)■ \Y2= \Y3= \Y4= \Y5= \Y6= \Y7=
Next, press $\boxed{WINDOW}$ and set to the Zoom 6 Standard.	ZOOM MEMORY 1:ZBox 2:Zoom In 3:Zoom Out 4:ZDecimal 5:ZSquare 6:ZStandard 7↓ZTrig
Now graph the equation by pressing the $\boxed{GRAPH}$ key.	
Go back to the $\boxed{Y=}$ menu and distribute like terms.	Plot1 Plot2 Plot3 \Y1■(X-2)(X+1) \Y2■X²+1X-2X-2■ \Y3= \Y4= \Y5= \Y6= \Y7=

Backspace all the way to the left with the left arrow key and then press [ENTER] until a thick, bold line is displayed	Plot1 Plot2 Plot3 \Y₁⬛(X−2)(X+1) \Y₂⬛X²+1X−2X−2 \Y₃= \Y₄= \Y₅= \Y₆= \Y₇=
Press the [GRAPH] key and notice a thicker curve graphs on top of the original curve. This proves that the equations are equal, since both representations generate the same graph.	
Go back to the [Y=] menu, combine like terms and enter your new expression into [Y=] . Then backspace all the way to the left and press [ENTER] until the trail appears.	Plot1 Plot2 Plot3 \Y₁⬛(X−2)(X+1) \Y₂⬛X²+1X−2X−2 ⊸Y₃⬛X²−1X−2 \Y₄= \Y₅= \Y₆= \Y₇=
Now press the [GRAPH] key and notice the third curve trails on top of the other two, visually representing the equality of the three equations. Note: If one curve does not lie on top of the previous one, there lies the error – either with distribution property or combining like terms.	