

# Algebra Activity 10: Graphing and Solving Systems of Equations

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CALCULATORS: Casio: fx-9750G Plus • Casio: cfx-9850G Series

## Student Handout

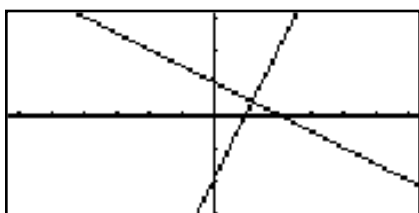
From the menu screen, choose **GRAPH** and enter the equations in Y1 and Y2.



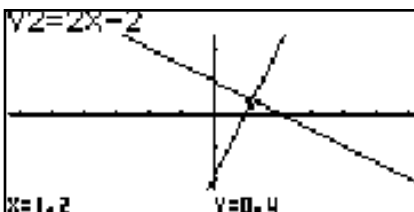
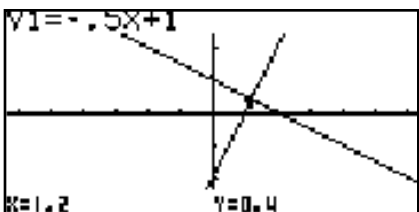
Press **SHIFT F3** to display the View Window. You can choose the **INIT** (left below) or **STD** (right below) or you can choose your own window. Often this method will serve as springboard for rich discussions on domain and range.



Press **EXIT** to return to the Graph Func screen. Press **F6(DRAW)** to see the graph. Press **SHIFT F1** to trace along the graph. Move left and right to trace along the function; up and down to change from one function to the other. The tracing increment is 0.1.



To solve the system of equations, trace along the functions until you locate a point which is common to both functions. Move the up or down arrow key to determine if the equations have the same y-value for a particular value of x.



A second method of solving this system is to draw the graph (above), press **SHIFT F5** (G-Solv) **F5(ISCT)** to find the intersection of the lines.

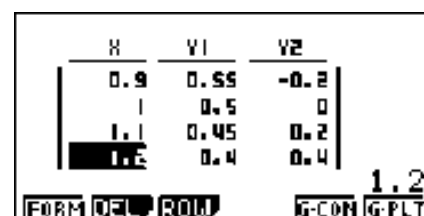
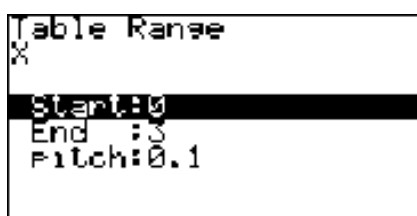
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continued

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A third method of solving the system of equations is to use the table. From the main menu, choose TABLE. Press **F5**(RANG). To generate a table as the value of variable  $x$  changes from 0 to 3, in increments of 0.1, press **0 EXE 3 EXE .1 EXE**. Press **F6**(TABL) to view the table. Scroll down with the down arrow key to the point where the  $y$ -values match.



A fourth method of solving the system of equations is in Equation Calculation Mode. From the main menu, choose **EQUA**. Select **F1**(SIML) for simultaneous linear equations. Press **F1** for 2 equations. You will need to rewrite your equations in standard form. For example,  $y = -.5x + 1$  would be  $.5x + y = 1$  and  $y = 2x - 2$  would be  $2x - y = 2$ . Enter the coefficients and constant and press **F1**(SOLV) to see the solution of the system.

