

Systems of Linear Inequalities

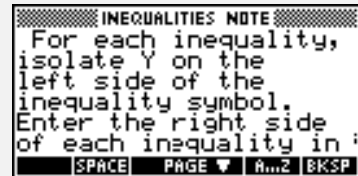
For the Teacher

Objectives:

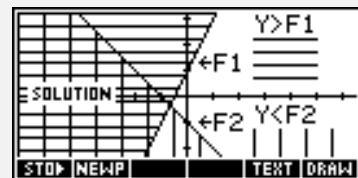
Using the **INEQUALITIES** applet, the student will graphically solve a system of linear inequalities.

Functionality:

When the student selects **START**, the **INEQUALITIES NOTE** will be displayed.



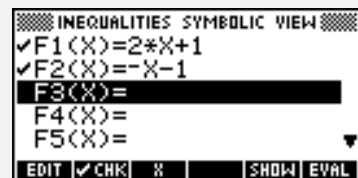
The student should then view the **SKETCH** for further explanation.



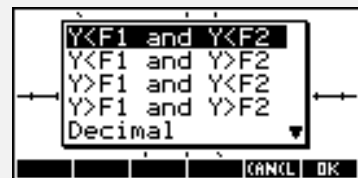
The following example is based on finding the solution of the system:

$$\begin{aligned} -2x + y &< 1 \\ x + y &< 1 \end{aligned}$$

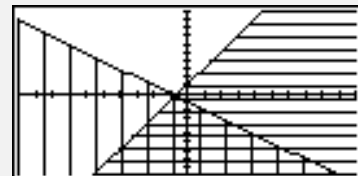
The student should isolate Y on the left side of the inequality symbol. The right side of each inequality should be entered in **F1(X)** and **F2(X)**, respectively. The student should then press **PLOT** to graph the lines associated with the inequalities.



VIEWS should be pressed and the appropriate combination of inequalities should be selected. The **Decimal** window or the **Standard** window may be selected from this menu also.



Each inequality will be shaded appropriately. The solution to the system will be displayed as the region where the shading overlaps.



Ideas can be applied to:

Algebra I, Algebra II, Precalculus

Programs associated with this applet:

.I.LL, .I.LG, .I.GG, .I.SA, .I.ST, .I.SV

Systems of Linear Inequalities

Name _____

Date _____

Directions: Write each inequality in terms of y . Solve the system of inequalities and record the solution in the provided window.

<u>System of Inequalities</u>	<u>In terms of y</u>	<u>Sketch of Solution</u>
1. $2x + y > 1$ $x + 2y < 4$		
2. $5x + 3y \geq 6$ $x - y < 2$		
3. $y - 6x - 1 > 0$ $2x + 3y + 3 > 0$		
4. $3x - y > 1$ $x + y > 2$		
5. $2x - 5y < 10$ $3x + 5y < 15$		