



Problem 1

In this activity, you will be determining if random points are solutions to inequalities. Before beginning the activity, you will need to set up the random number generator. On page 1.3, change the random seed using the last 4 digits of your phone number: **randseed(XXXX)**.

On page 1.4, you are given the inequality $y > -x - 2$ and the coordinates of a point. Using the table below, determine whether or not the point is a solution of the inequality.

Point A (x, y)	y	$-x - 2$	$y > -x - 2$	T or F
ex: (2, 2)	2	$-2 - 2$	$2 > -4$	T

Next, go to page 1.5 and verify your answer on the graph. Then, go back to page 1.4 and press **(ctrl) + (R)** while on the spreadsheet to generate a new point. Repeat the process until you have tested three points.

Problem 2

In this problem, you are given two inequalities, $y \leq 4$ and $y > -2$. On page 2.1, you are given three points. Press **(ctrl) + (R)** until you think that at least one of these points are within the shaded region of the inequalities on page 2.2. Move to page 2.2 to check your hypotheses. If needed, go back to page 2.1 and generate a new set of points.

Point (x, y)	Test: $y \leq 4$ (T or F)	Test: $y > -2$ (T or F)	Final answer? (T or F)
ex: (2, 0)	$0 \leq 4$ T	$0 \geq -2$ T	T



Problem 3

In this problem, three inequalities intersect to form a triangular region. On page 3.2, you are given three points. Generate new points until you think that at least one of the points is a solution of the system of inequalities, or is within the shaded region on page 3.3. Use the graph on page 3.3 to check your answers.

Point (x, y)	Test: $y \leq 0.25x + 4$ (T or F)	Test: $y \geq 2x - 1$ (T or F)	Test: $y \geq x + 2$ (T or F)	Final answer? (T or F)
ex: (2, 0)	$0 \leq 0.25(2) + 4$ $0 \leq 0.5 + 4$ $0 \leq 4.5$ T	$0 \geq 2(2) - 1$ $0 \geq 4 - 1$ $0 \geq 3$ F	$0 \geq 2 + 2$ $0 \geq 4$ F	F