Intersecting the Solution
LinearSystems.tns

Name _____

Class _____

Problem 1 – Solving a System of Linear Equations Graphically

Solve the linear system of equations at the right using an algebraic method, substitution, or elimination.

$$y = 2x + 4$$
$$y = -3x - 1$$

- Show your work and record your solution below:

- Solution: $x =$ _____; $y =$ _____

Use the handheld to solve the system of equations graphically. On page 1.3, enter the equations in the function entry line. Next, find the point of intersection by pressing **MENU > Points & Lines > Intersection Point(s)**. Select each line.

- How is the point of intersection related to the algebraic solution of a system of equations?

Problem 2 – Creating a System of Equations

On page 2.1, the lines from a system of equations problem have been "disconnected" from the intersection point. Use up/down arrows to move the lines so their solution is at the intersection.

- Record the equations of the lines:

Have your partner solve your system of equations algebraically to confirm the solution is the intersection point.

Problem 3 – Infinite or No Solutions

On page 3.1, two lines are graphed. Use the up/down arrows so the lines represent a system of equations with no solution.

- Record your equations:

Now, move the lines so they represent a system of equations with infinite solutions.

- Record your equations: