Name: _____   Date: _____

5.1 Solving Systems of Linear Equations By Graphing

Essential Question: _____

A _____ of linear equations is a set of _____ or more linear _____ in the same variables.

Here is an example:

A _____ to a system of linear equations in two variables is an _____ _____

that is a _____ of each equation in the _____.

EXAMPLE 1   **Checking Solutions**

Tell whether the ordered pair is a solution of the system of linear equations.

a. $(2, 5)$; $\begin{array}{l} x + y = 7 \\ 2x - 3y = -11 \end{array}$ Equation 1   Equation 2   **b.** $(-2, 0)$; $\begin{array}{l} y = -2x - 4 \\ y = x + 4 \end{array}$ Equation 1   Equation 2

Solving Systems of Linear Equations by Graphing

The solution of a system of linear equations is the _____ of _____ of the

_____ of the _____.

The solution to a system of parallel lines would be _____ _____.

If there are two of the exact same lines, they would have _____ _____ solutions.

Step 1: _____ each equation in the same coordinate plane.

Step 2: _____ the point of _____.

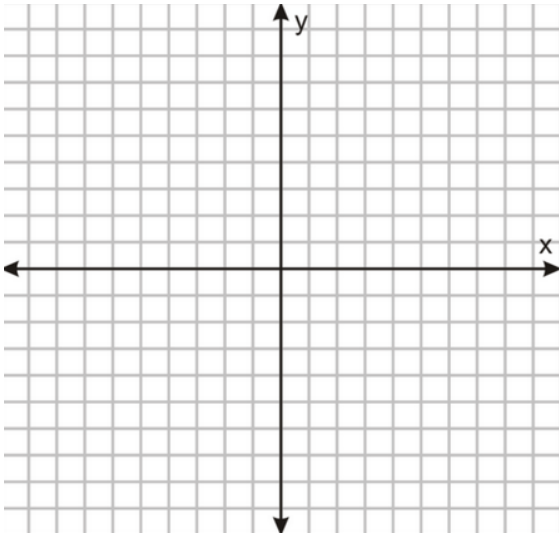Step 3: _____ the point from Step 2 by _____ for ___ and ___ in each equation of the

   original system.

EXAMPLE 2 **Solving a System of Linear Equations by Graphing**

Solve the system of linear equations by graphing.

$y = -2x + 5$ Equation 1

$y = 4x - 1$ Equation 2

Solving Real-Life Problems

EXAMPLE 3 **Modeling with Mathematics**

A roofing contractor buys 30 bundles of shingles and 4 rolls of roofing paper for $1040. In a second purchase (at the same prices), the contractor buys 8 bundles of shingles for $256. Find the price per bundle of shingles and the price per roll of roofing paper.

(Please make sure to show all work for this problem).

$y = -7.5x + 260$

$x = 32$

$(32, 20)$