Remediation Unit 6 Objective 1

Determining Whether a Point is a Solution to a System of Equations

How to test a point:

- To tell whether a point is a solution to a system, substitute the ordered pair into EACH equation for *x* and *y*.
- If the ordered pair satisfies BOTH equations, then it is a solution to the system.
- If the ordered pair does not work for either of the equations, it is NOT a solution.

Example

Is $(-1, 6)$ a solution to the system: $\begin{cases} x + 7 = y \\ -4x + 2 = y \end{cases}$

Substitute in values for both equations: $x = -1$ and $y = 6$.

Equation 1:	Equation 2:
$x + 7 = y$	$-4x + 2 = y$
$-1 + 7 \ ? \ 6$	$-4(-1) + 2 \ ? \ 6$
$6 = 6$	$4 + 2 \ ? \ 6$
Point works for Equation 1	$6 = 6$ → point works for Equation 2

Since the point makes BOTH equations true, the point $(-1, 6)$ IS a solution to the system.

Try These

Determine if the point is a solution to the system. You must show work to support your answer.

1.) Is $(-5, -3)$ a solution to the system:

$y = -2(x - 4) - 7$
$y = (x - 4) - 4$

2.) Is (-4,-2) a solution to the system:

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

3.) Is (3,1) a solution to the system:

$y = -2(x - 2) + 3$

$y = -3x + 10$

4.) Is (-3,-11) a solution to the system:

$-4x + y = 1$

$y = x - 2$

5.) Is (3,-10) a solution to the system:

$y = -4x - 2$

$3x + y = -1$

6.) Is (1,-3) a solution to the system:

$y = 3(x + 2) - 8$

$y = 2(x + 2) - 7$

7.) Is (3,3) a solution to the system:

$y = 4(x - 3) + 3$

$y = -3x + 12$

8.) Is (4,4) a solution to the system:

$y = 3(x - 5) + 7$

$-x + y = 0$

9.) Is (4,-2) a solution to the system:

$y = -3(x - 2) + 5$

$y = 2(x - 2)$

10.) Is (-6,-3) a solution to the system:

$4x - 2y = -18$

$y = 3x + 12$