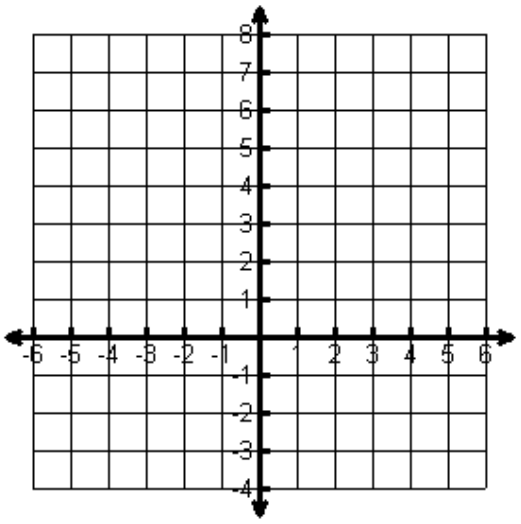
Name: _____ Date: _____

Connecting Algebra & Geometry through Coordinates

Example 1:

Plot and label each point.

A(-3, 1), B(-2, 4), C(5, 1), and D(4, -2)



1a: **A parallelogram has opposite sides parallel.**

Using the definition above, prove ABCD is a **parallelogram.**

1b: **A parallelogram has opposite sides congruent.**

Using the definition above, prove that ABCD is a **parallelogram.**

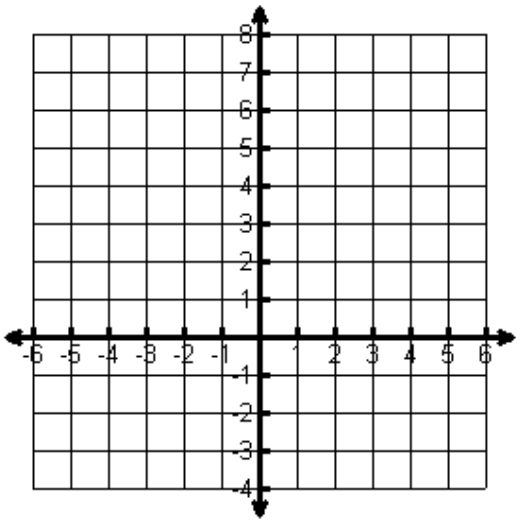
Is ABCD a parallelogram?

YES	**NO**

Example 2:

Plot and label each point.

A(-3, 1), B(-2, 4), C(4, 2), and D(3, -1)



2a: **A rectangle has four right angles.**

Using the definition above, prove ABCD is a **rectangle.**

2b: **A rectangle has congruent diagonals.**

Using the definition above, prove ABCD is a **rectangle**.

Is ABCD a rectangle?

YES	**NO**

Decide whether Point A is INSIDE, OUTSIDE or ON the circle.

	LENGTH OF CP (RADIUS)	LENGTH OF CA	IN/OUT/ON
$P(-6,2)$ $C(4,-3)$ $A(-3,2)$			
$P(6,3)$ $C(3,-1)$ $A(-1,-4)$			
$P(-3,4)$ $C(-5,7)$ $A(-6,1)$			
$P(-3,0)$ $C(2,3)$ $A(3,-4)$			
$P(-2,-1)$ $C(-5,2)$ $A(-9,6)$			