CW#___

Name:_____

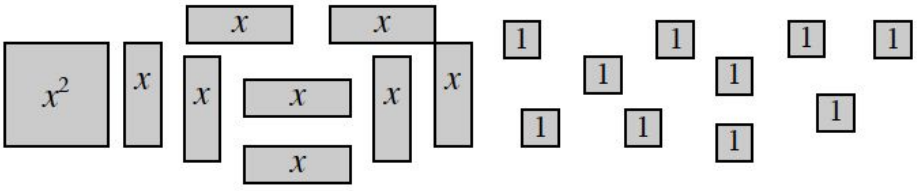
Period: A1 A2 A3 B1 B3

2.3.1 How can I write it in graphing form?

Completing the Square

#131 With your team, decide on a strategy to find the vertex of the parabola $y = x^2 - 2x - 15$. Then write the equation of the parabola in graphing form.

#132 COMPLETING THE SQUARE

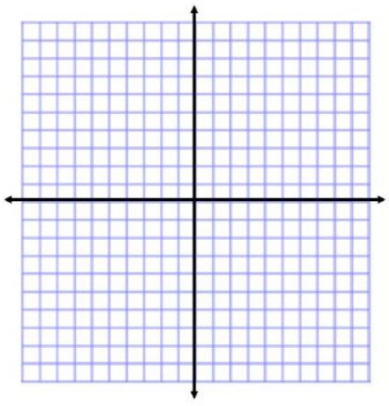


a. Use algebra tiles or a rectangular area model to complete the square and rewrite the equation $y = x^2 + 8x + 10$ in graphing form.

Area Model **Algebra**

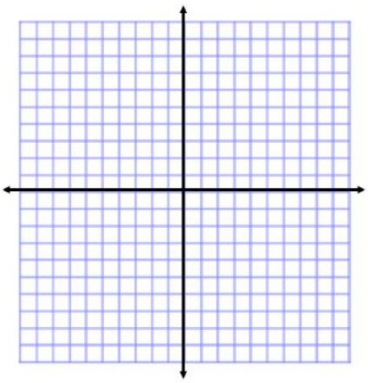
b. Where is the vertex of the parabola?

c. Sketch a graph of the parabola.
scale by ones



#133 Complete the square to write $y = x^2 + 4x + 9$ in graphing form. Use algebra tiles or an area model to figure out how to make this expression into a square. Write the equation in graphing form, name the vertex, and sketch the graph.

Area Model **Algebra** **Graph (scale by ones)**

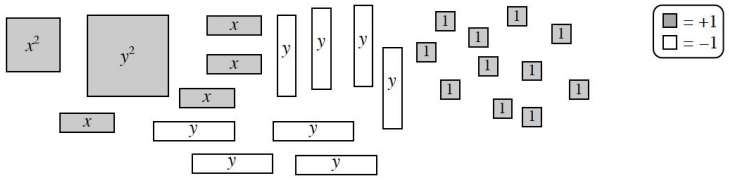


Equation:

Vertex:

$134

$x^2 + y^2 + 4x - 8y + 11 = 0$



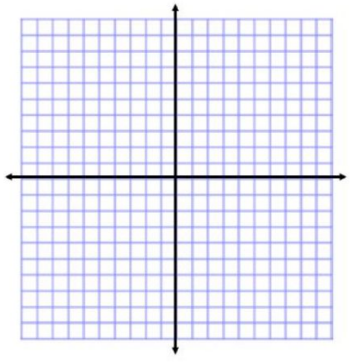
a. With your team, figure out how to arrange the tiles to form two squares.

Area Model **Algebra**

b. How many unit tiles are needed to complete the two squares?

c. Write the equation in graphing form and sketch a graph. ***Scale by ones***

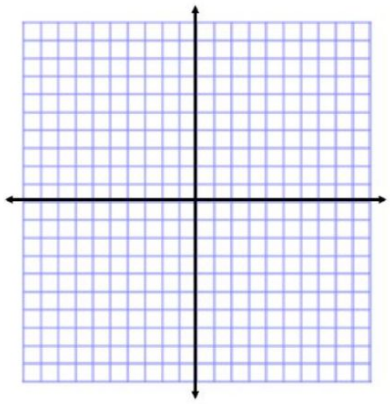
Equation:



#134 Continued

d. Complete the square to rewrite $x^2 + y^2 - 4x + 6y - 3 = 0$ in graphing form and sketch a graph.

Area Model **Algebra** **Graph (scale by ones)**



Equation:

#135 Write each equation in graphing form, then state the vertex of the parabola or the center and radius of the circle.

a. $y = x^2 + 6x + 7$

Vertex:

b. $f(x) = 3x^2 + 12x + 11$

Vertex:

#135 Continued Write each equation in graphing form, then state the vertex of the parabola or the center and radius of the circle.

c. $x^2 + y^2 + 2x - 4y = 4$

Center:

Radius:

d. $f(x) = x^2 + 7x + 2$

Vertex:

e. $y = 2x^2 + 16x$

Vertex:

f. $x^2 + y^2 + y + 2 = 8$

Center:

Radius: