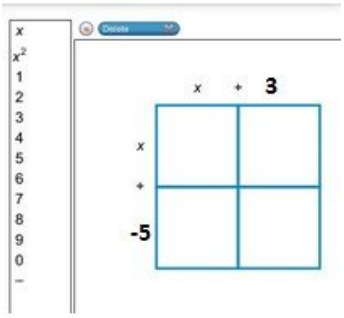
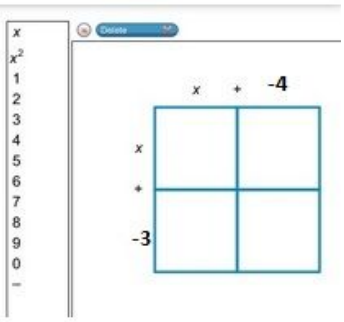
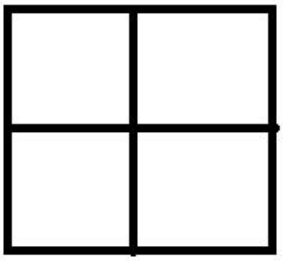
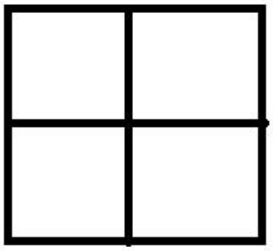
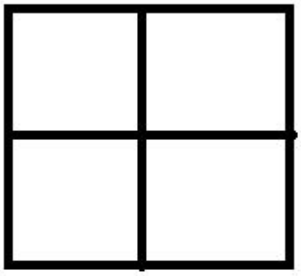
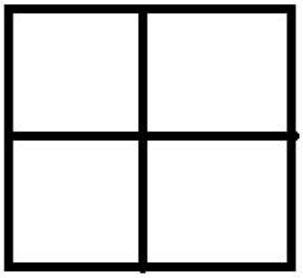
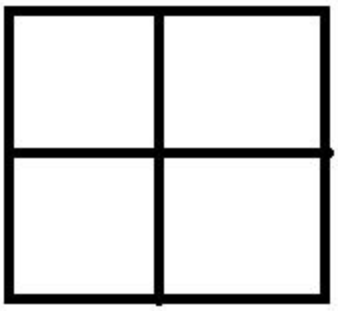
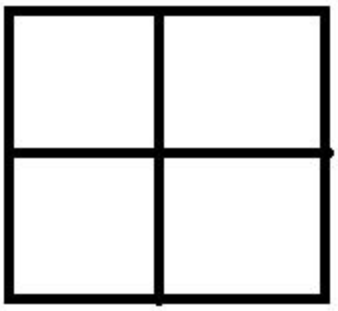
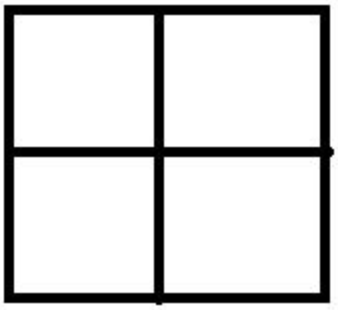
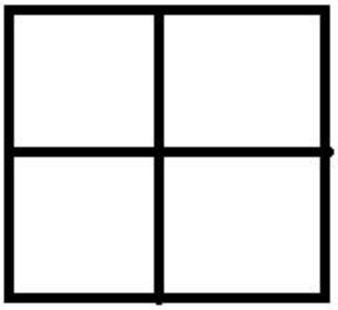
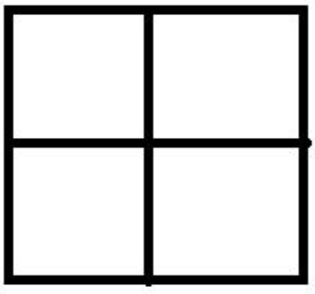
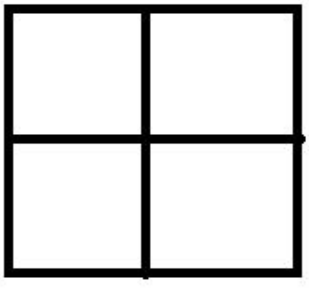
SM2- A#5-2 Rectangles	Name
1. Put numbers in each of the boxes to Complete the area model to multiply the binomials (x+3) and (x-5). Write the Standard form below.  STANDARD FORM: TERMS: COEFFICIENTS:	2. Put numbers in each of the boxes to Complete the area model to multiply the binomials (x-3) and (x-4). Write the Standard form below.  STANDARD FORM: TERMS: COEFFICIENTS:
3. Complete the rectangle diagram and find Standard Form for a rectangle that the length is x + 5 and the width is x + 4. 	4. Complete the rectangle diagram and find Standard Form for a rectangle that the length is x + 6 and the width is 2x + 1. 
5. Arrange your tiles to make $f(x) = x^2 + 9x + 14$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(x_____)	6. Arrange your tiles to make $f(x) = x^2 + 9x + 20$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(x_____)

7. Arrange your tiles to make $f(x) = x^2 + 7x - 18$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(x_____)	8. Arrange your tiles to make $f(x) = x^2 + 4x - 5$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(x_____)
9. Arrange your tiles to make $f(x) = 2x^2 + 7x + 6$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(__x_____)	10. Arrange your tiles to make $f(x) = 3x^2 + 13x + 4$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(__x_____)
11. Arrange your tiles to make $f(x) = x^2 - 4x - 12$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(__x_____)	12. Arrange your tiles to make $f(x) = 3x^2 + 13x + 4$ into a rectangle. Then complete the picture and write factored form:  f(x) = (x_____)(__x_____)

13. Using the following algebra tiles for $y = x^2 + 12x + 32$, draw or make a diagram for Vertex Form.	14. Write the equation of the Area of a rectangle where the length is 5 inches shorter than twice the width.

12. Using the algebra tiles for $y = x^2 + 12x + 32$, draw or make a diagram for x-Intercept/Factored Form.

Factors:

Write the Quadratic in STANDARD form.

15. Using the following algebra tiles for $y = x^2 - 8x + 15$, draw or make a diagram for Vertex Form.

Using the algebra tiles for $y = x^2 - 8x + 15$, draw or make a diagram for x-Intercept/Factored Form.

Factors:

16. Write the equation of the Area of a rectangle where the length is 2 inches longer than three times the width.

Distribute to write the Quadratic in STANDARD form.

Write the Quadratic in STANDARD form.

17. A new City Center is being built. The perimeter is 158 yards. The length is 2 yards less than double the width. What are the dimensions of the playing field.
The width is _____yards.
The length is _____yards.

18. Write the following diagram in as a product of the array, or in x-Intercept form, and in Standard form.

STANDARD FORM:
TERMS:
COEFFICIENTS:

19. Write vertex form for the following table:

x	f(x)
4	15

20. What would be the maximum area for a Rectangle pen with a Perimeter of 12 meters? x=length, y = Area

5	18
6	15
7	6
8	-9
9	-30

Write the equation for this situation in Vertex Form.

21. Compare the maximums in these 2 situations. Which situation has the greater maximum?

f(x) is in table

x	f(x)
0	5
1	40
2	65
3	80
4	85
5	80
6	65

g(x) is equation below.

$$g(x) = -3x^2 + 12x + 69$$

22. Find the quadratic equation to fit the data.

Seconds	feet
0	5
1	29
2	21

If this is a water balloon being launched straight up, then complete the following.

A water balloon is launched upward with an initial velocity of ____ ft/sec from a platform ____ ft high.

Equation:

Maximum height and time to get to the maximum height.

When will the object hit the ground?