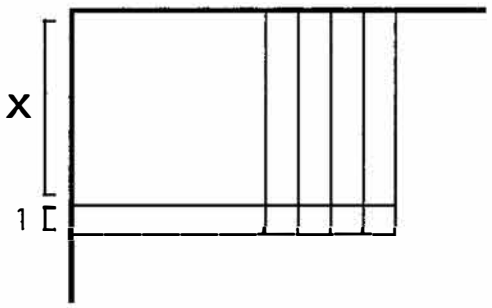
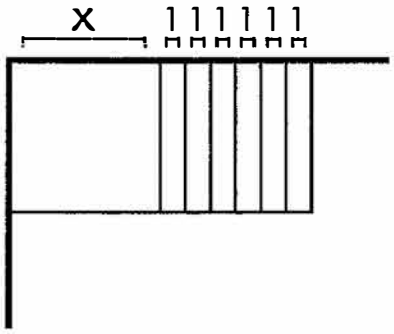
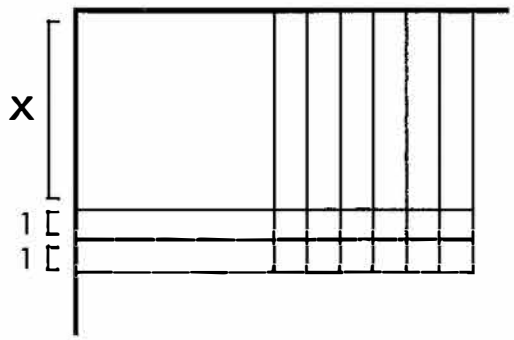
Algebra Tiles Factoring Worksheet 1.1

Name _____ Period_____

Using your Algebra Tiles™ and the model, find the missing dimension (length or width) of each rectangle.

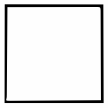
Let ▢ represent x^2, ▭ represent x, and □ represent 1.

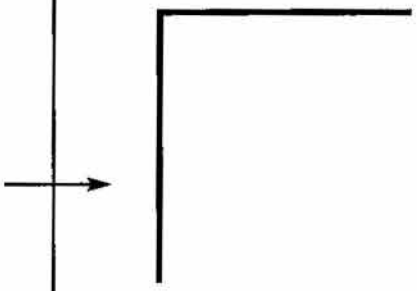
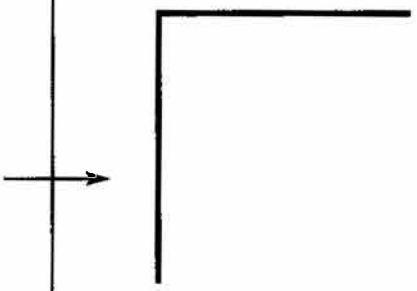
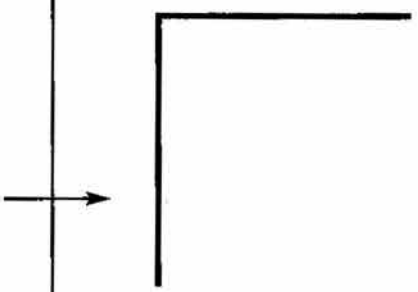
Dimensions	Area
1. (x + 1)(_____)	 Area = _____
2. (_____)(x + 6)	 Area = _____
3. (x + 2)(_____)	 Area = _____

Multiplying Polynomials Worksheet 2

Name _____

Multiply the polynomials listed below. Use your Algebra Tiles™ and Product Mat to create models. Draw a model for each problem.

Let  represent x^2,  represent x, and represent 1.

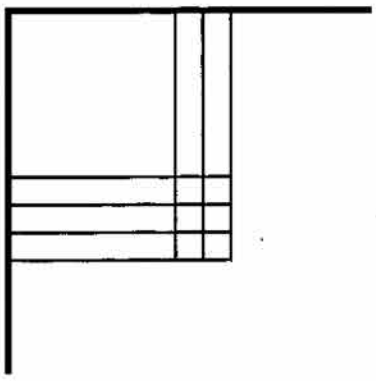
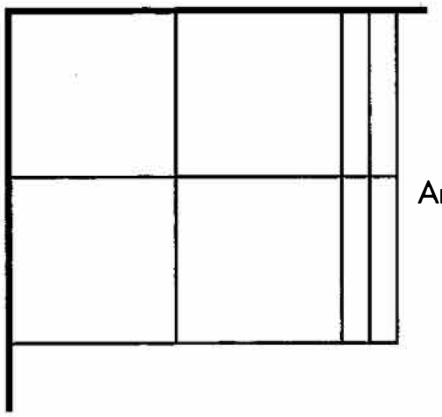
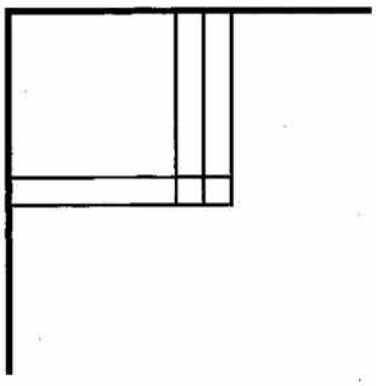
Polynomial	Model
1. $x(x + 1)$	 Area = _____
2. $(x + 1)(x + 3)$	 Area = _____
3. $(x + 2)(x + 2)$	 Area = _____

Dividing Trinomials Worksheet 1

Name _____

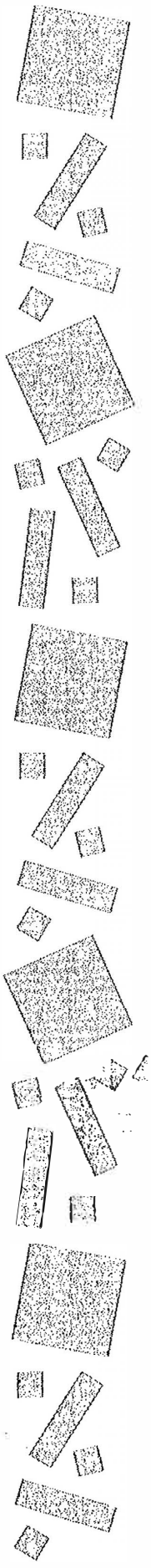
Use the model and your Algebra Tiles™ to determine each rectangle's length and width.

Let ▢ represent x^2, ▭ represent x, and ▫ represent 1.

Dimensions	area
1. (_____)(_____)	 Area = _____
2. (_____)(_____)	 Area = _____
3. (_____)(_____)	 Area = _____

Multiplying Polynomials Extra Practice

Name _____



Multiply.

1. $x(x + 4)$

2. $(x + 1)(x + 5)$

3. $(x + 2)(x + 4)$

4. $x(2x + 5)$

5. $(x + 1)(2x + 2)$

6. $(2x + 3)(x + 2)$

7. $(3x + 1)(x + 1)$

8. $(2x + 2)(x + 1)$

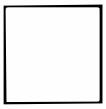
9. $(x + 3)(3x + 4)$

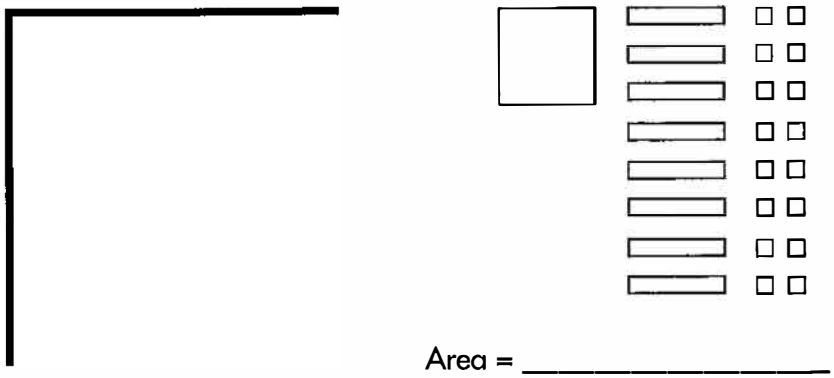
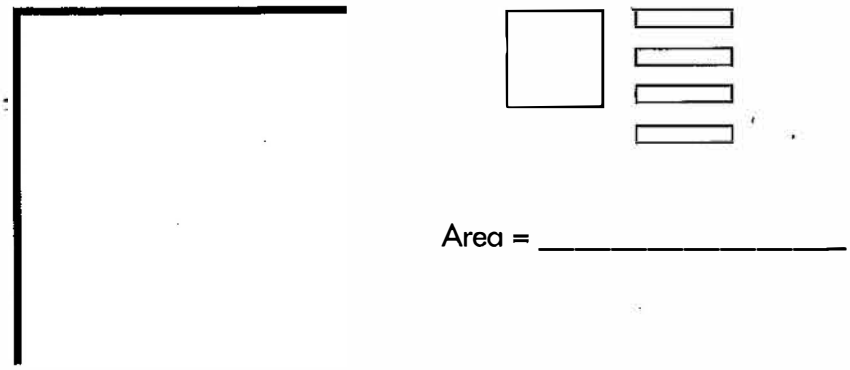
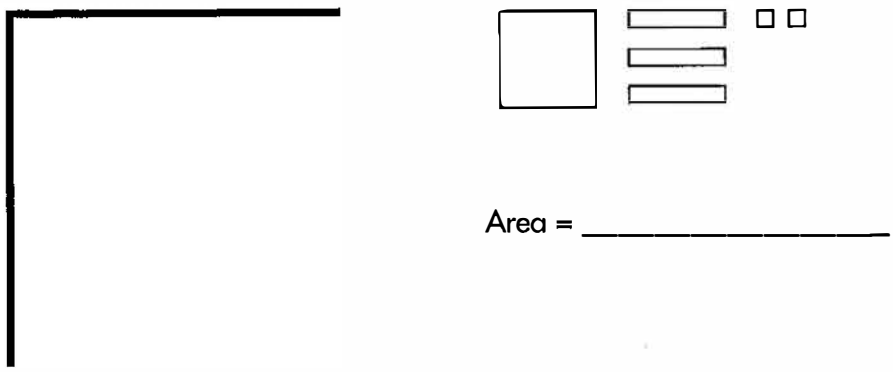
10. $(2x + 5)(x + 2)$

Dividing Trinomials Worksheet 3

Name _____

Using your Algebra Tiles™ and Product Mat, determine the length, width, and area of the rectangles formed by the tile groupings below.

Let  represent x^2,  represent x, and  represent 1.

Dimensions	Area
1. (_____)(_____)	 Area = _____
2. (_____)(_____)	 Area = _____
3. (_____)(_____)	 Area = _____

Dividing Trinomials: Extra Practice

Name _____

Use your Algebra Tiles™ to draw tile models to find the missing dimension (length or width) of the rectangle to divide these trinomials.

1. $(x^2 + 4x) \div (x + 4) =$

2. $(x^2 + 6x + 5) \div (x + 1) =$

3. $(x^2 + 6x + 8) \div (x + 2) =$

4. $(2x^2 + 5x) \div x =$

5. $(2x^2 + 4x + 2) \div (2x + 2) =$

6. $(2x^2 + 7x + 6) \div (x + 2) =$

7. $(3x^2 + 4x + 1) \div (x + 1) =$

8. $(2x^2 + 4x + 2) \div (2x + 2) =$

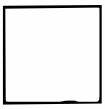
9. $(3x^2 + 13x + 12) \div (x + 3) =$

10. $(2x^2 + 9x + 10) \div (x + 2) =$

Adding & Subtracting Polynomials Extra Practice

Name _____

Use Algebra Tiles™ and draw models to simplify the following:

Let  represent x^2,  represent x, and represent 1.

1. $5x^2 + 2x + 1$
   $+ (x^2 - x + 4)$

2. $5x^2 + 2x - 1$
   $- (x^2 - x + 4)$

3. $6x^2 - 3x - 1$
   $+ (x^2 + 2x + 1)$

4. $6x^2 - 3x - 1$
   $- (-x^2 - 2x - 1)$

5. $2x^2 + 2x + 2$
   $+ (-x^2 + 3x - 4)$

6. $2x^2 + 2x + 2$
   $- (-x^2 + 3x - 4)$

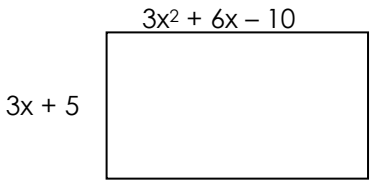
7. $x^2 - x - 3$
   $+ (3x^2 + 2x - 6)$

8. $x^2 - x - 3$
   $-(-3x^2 + 2x - 6)$

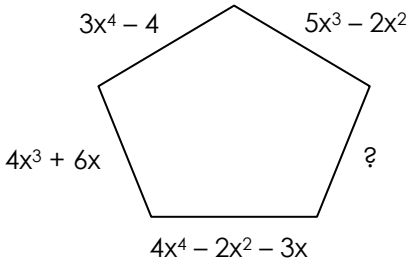
Name_____ Period_____

Finding Perimeter and Area Using Polynomials

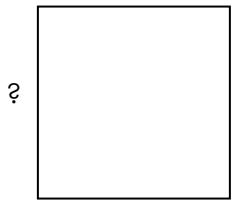
1. What is the distance around the rectangle if the length is $3x^2 + 6x - 10$ and the width is
   $3x + 5$?



2. If the perimeter of the pentagon below is $7x^4 + 9x^3 - 6x^2 + 10$, what is the length of the missing side?



3. If the perimeter of the **square** below is $12x^5 - 8x^2 + 20x - 4$, what is the length of one side?



4. The area of the square below is represented by the expression $4x^2 + 4x + 1$. The area of the rectangle is represented by the expression $x^2 - 5x + 6$. Using the diagram below, find the area of the shaded region.