

monomial (binomial)

Solving Quadratics SQ1

Single Distribution

Classwork

Name _____
Date _____

Period _____

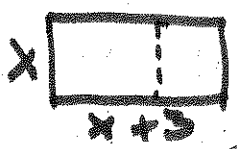
The expression $3(x+2)$ is in factored form because it is the product of two factors.

The expression $3x+6$ is in Standard form because it is written as the sum or difference of terms. (after distribution)

The Distributive Property says that $a(b+c) = ab+ac$. This allows us to change expressions from factored form to standard form.

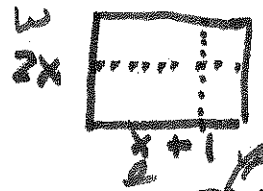
Use the algebra tiles to create a rectangle with the given dimensions. Sketch your rectangle and label the dimensions and areas of your drawing. Write the area of each rectangle in factored form and standard form.

1. Width = x
Length = $x+3$



QW Factored: $x(x+3)$
Standard: x^2+3x
Area

2. Width = $2x$
Length = $x+1$



Factored: $2x(x+1)$
Standard: $2x^2+2x$

3. Width = x
Length = $x-4$



Factored: $x(x-4)$
Standard: x^2-4x

Each factored expression represents the area of a rectangle. Write an equivalent expression in standard form. Draw and label a rectangle if necessary.

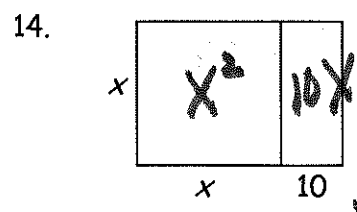
4. $x(x+4)$

$$x^2+4x$$

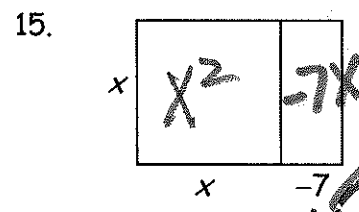
5. $2x(x-3)$

$$2x^2-6x$$

Label the area of each section. Write the area of the following rectangles in both factored form and standard form.



Factored form $x(x+10)$
Standard form x^2+10x



Factored form $x(x-7)$
Standard form x^2-7x

Use the Distributive Property to write each expression in standard form. CLT

16. $2x(3x-4)$

$$6x^2-8x$$

17. $5x(3x^2-2x+1)$

$$15x^3-10x^2+5x$$

18. $4x(3x^2-5) - 3(4x^3-5x+1)$

$$12x^3-20x-12x^3+15x-3$$

$$-5x-3$$

Double Distribution

$$(x+3)(x+2) = x^2 + 2x + 3x + 6$$

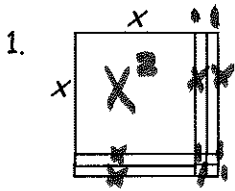
The expression $(x+3)(x+2)$ is in factored form because it is the product of two factors.

The expression $x^2 + 5x + 6$ is in standard form because it is written as the sum or difference of terms. (after distributing and simplifying)

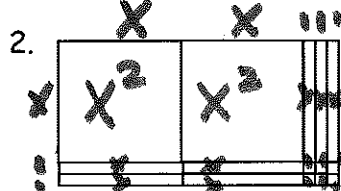
To Multiply two binomials you can use the FOIL Method. Find the sum of the products of:

F: the First terms O: the Outer terms I: the Inner terms L: the Last terms

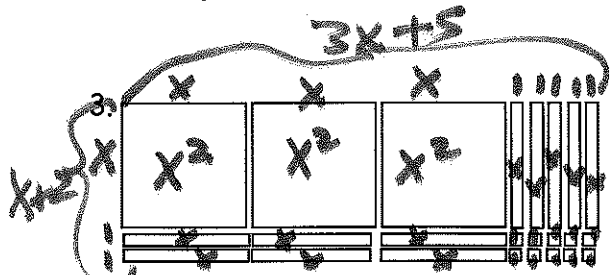
Each rectangle has been created with algebra tiles. Write the area of each figure in factored and standard form. Then identify the a , b , and c values.



Factored: $(x+2)(x+2)$
 Standard: $x^2 + 4x + 4$
 $a = 1$ $b = 4$ $c = 4$



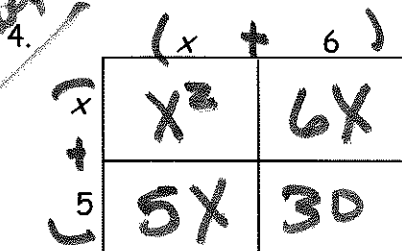
Factored: $(2x+3)(x+2)$
 Standard: $2x^2 + 7x + 6$
 $a = 2$ $b = 7$ $c = 6$



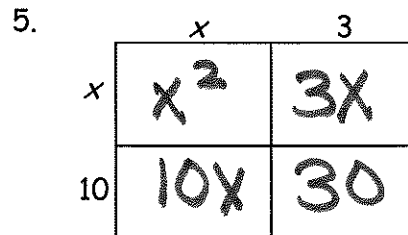
Factored: $(3x+5)(x+2)$
 Standard: $3x^2 + 11x + 10$
 $a = 3$ $b = 11$ $c = 10$

For each of the figures below, fill in the area of each section. Write two expressions for the area of the entire figure, one in factored form and one in standard form.

Don't forget



Factored: $(x+6)(x+5)$
 Standard: $x^2 + 11x + 30$



Factored: $(x+3)(x+10)$
 Standard: $x^2 + 13x + 30$

Each expression represents the area of a rectangle. Write an equivalent expression in standard form. Draw and label a rectangle if necessary.

6. $(x+5)(x+4)$
 $x^2 + 9x + 20$

7. $(x+4)^2$
 $(x+4)(x+4)$
 $x^2 + 8x + 16$

8. $(2x+1)(x+6)$
 $2x^2 + 13x + 6$

9. $(x+8)^2$
 $(x+8)(x+8)$
 $x^2 + 16x + 64$

10. $(x+12)(x+9)$
 $x^2 + 21x + 108$

11. $(3x+2)(x+5)$
 $3x^2 + 17x + 10$