

Algebra/Geometry Institute Summer 2005

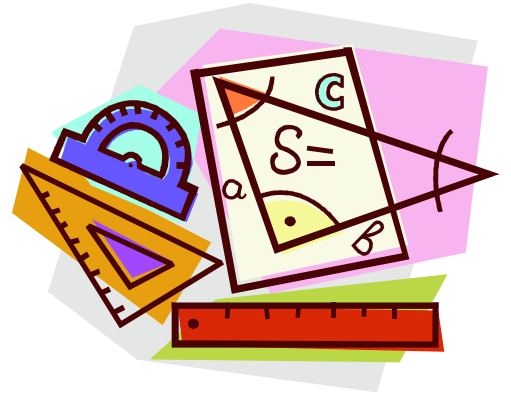
Lesson Plan #3- Multiplying Binomials

Faculty Name: Derandel Allen

School: Leland School Park

Leland, MS

Grade Level: Pre-Algebra,



1 Teaching objective(s)

4E – Multiplying polynomials by using algebraic methods, geometric models and the distributive property

2 Instructional Activities

➤ Introduce the lesson by reviewing the distributive property

- Complete review activity (see attachment #1)

➤ The teacher will provide examples and warm up activity

For Example: $3x(x + 5)$

1st multiply $3x * x$ to get $3x^2$

2nd multiply $3x * 5$ to get $15x$

Therefore, $3x(x + 5) = 3x^2 + 15x$

➤ The teacher will review relevant terms such as integers, and product.

➤ The teacher will give examples of how to multiply a binomial by a binomial and discuss an alternate method. Ex. $(x + 3)(x + 4)$, by using the distributive property.

- 1st multiply $x * x$ to get x^2

- 2nd multiply $x * 4$ to get $4x$

- 3rd multiply $3 * x$ to get $3x$

- 4th multiply $3 * 4$ to get 12

- Combine like terms and arrange answer in descending order.

- So, $(x + 3)(x + 4) = x^2 + 7x + 12$

As an alternate method, consider this modified version of the Punnet Square

	X	3
X	X^2	$3x$
4	$4x$	12

So your answer is $x^2 + 3x + 4x + 12$, combine like terms, $x^2 + 7x + 12$

The teacher will give another example. $(x - 3)(x - 2)$

	X	-3
X	X^2	$-3x$
-2	$-2x$	6

The teacher will make sure that the concept of adding integers is connected. So the answer is $x^2 - 5x + 6$, because $-3x + -2x$ is $-5x$

Provide guided practice. The students will demonstrate their knowledge of binomials by modeling the problems by using Punnet squares. (see attachment #2)

3 Materials and Resources

- Glencoe Pre-Algebra, An Integrated Transition to Algebra & Geometry, lesson 14- 6, page 585, 2001
- Glencoe, McGraw Hill, Pre- Algebra, Geometry, activity masters. Page 68, 2001.
- Chalkboard
- Chalk
- Overhead Projector
- Screen
- Teacher made activity sheets

4 Assessment

- Monitor students as they complete practice and individual activity
- Question and answer period during discussion
- Monitor boardwork
- Collect activity sheets (10 Questions, attachment #2), grade and give immediate feedback.

Name _____ Date _____

Attachment #1

Multiplying binomials by monomials Review Sheet

Using the distributive Property, find the product of each problem.

1) $3x(x + 5)$

2) $5(2x - 2)$

3) $-2x(x + 3)$

4) $6x(x - 3)$

5) $7x(-2x + 2)$

Name _____ Date _____

Attachment #2

Multiplying Binomials by Binomials
Activity Sheet

Find the product of each problem.

1) $(x - 2)(x + 4)$

2) $(x - 3)(x - 6)$

3) $(x + 5)(x + 4)$

4) $(x + 3)(x + 1)$

5) $(x - 8)(x - 4)$

6) $(x - 10)(x + 4)$

7) $(x + 12)(x - 3)$

8) $(x - 1)(x + 9)$

9) $(x + 9)(x - 3)$

10) $(x - 7)(x - 4)$