Algebra/Geometry Institute Summer 2004

Lesson Plan 2

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School: Greenville-Wesson High/Greenville Mississippi
Grade Level: 9th

1 Teaching objective(s)

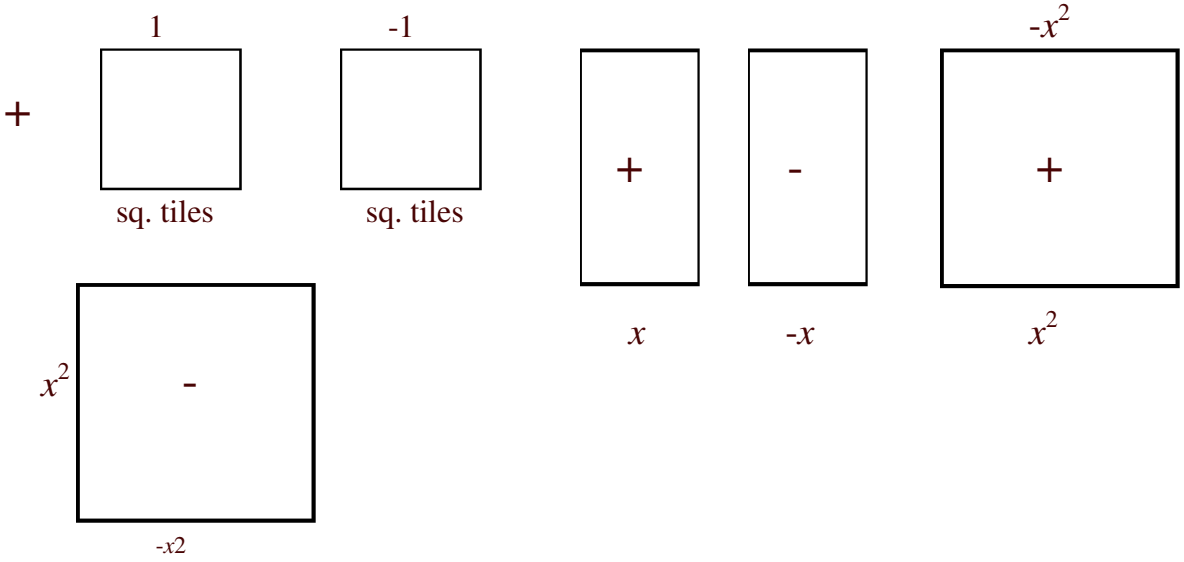
The teacher will define and classify polynomial by degree and terms.
The teacher will demonstrate the addition and subtraction using algebra tiles.

2 Instructional Activities

- The students will classify the polynomials: 6, $-2x$, $3x + 1$, $-x^2 + 2x - 5$, $4x^3 - 8$, $2x^4 - 7x^3 - 5x + 1$.

Polynomials	Degree	Classified by Degree	Classified by no. terms

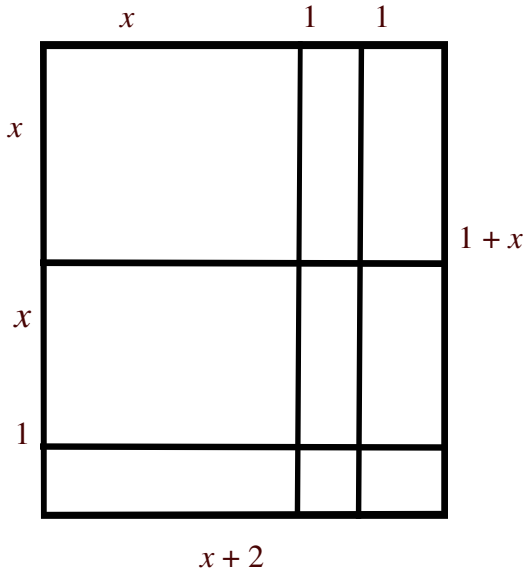
- The student will use algebra tiles to add and subtract polynomials/



- The student will use algebra tiles to find the sum:
  1. $(-x^2 + x - 1) + (4x^2 + 2x - 3)$
  2. $3x^2 + 5x - 6 + (-2x^2 - 3x - 6)$
  3. $(5x^2 - 3x + 4) + (-x^2 + 3x - 2)$
  4. $(2x^2 - x - 1) + (-2x^2 + x + 1)$
  5. $(-x^2 + 3x + 7) + (x^2 - 7)$

- The student will use algebra tiles to find the difference:
  1. $(x^2 + 3 + 4) - (x^2 + 3)$
  2. $(x^2 - 2x + 5) - (3 - 2x)$
  3. $(2x^2 + 5) - (-x^2 + 3)$
  4. $(x^2 + 4) - (2x^2 + x)$

The rectangle at the right has the width of $(x + 2)$ and the height of $(2x + 1)$.



1. Copy the model. What is the area of each part of the rectangle?
2. Find the product of $(x + 3)$ and $(2x + 1)$ by adding the areas of the parts to get an expression for the total area.
3. Copy and complete the equation:
   $(x + 2)(2x + 1)$.

3 Materials and Resources

McDougal Littell Algebra, Prentice Hall Algebra Practice Workbook, Overhead projector.

4 Assessment

Check point exercises.

1. Identify the coefficients and classify the polynomial:
   $2x + 4 - x^3$.
2. Simplify the expression:
   $(2x^2 + 9x - 4) + (6x - 3x^2 + 1) - (x^2 + x + 1)$.