Jan 31, 2014

Feb. 3, 2016

Pg 210

5.1 Modelling Polynomials

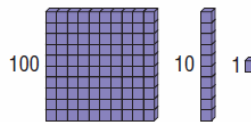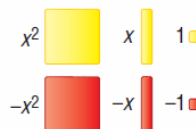**FOCUS**
• Model, write, and classify polynomials.

In arithmetic, we use Base Ten Blocks to model whole numbers. How would you model the number 234?

In algebra, we use algebra tiles to model integers and variables.

Yellow represents positive tiles. Red represents negative tiles.

How are Base Ten Blocks and algebra tiles alike?

100   10   1

x^2 x 1

$-x^2$ $-x$ -1

Sep 22-9:41 PM

| Terminology	EXAMPLES:
1. Terms: A single number or variable, or the product of numbers and variables.	
2. Coefficients: The integer number found in front of a variable.	
3. Degree: The term with the variable with the largest exponent determines the degree.	
4. Constant term: A term that does not have a variable in it; it only contains an integer.	

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More Terminology

EXAMPLES:

5. Polynomial:

> Poly- means many. One term or the sum of terms whose variables have whole-number exponents.
>
> Pull

6. monomial:

> A polynomail with 1 term.
>
> Pull

7. Binomial:

> Binomial = bi, means 2.
> A polynomail with 2 terms.
>
> Pull

8. Trinomial:

> Trinomial = tri, means 3.
> A polynomail with 3 terms.
>
> Pull

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	Definition	Example
Term	number, variable, or product of a number or variable	$-5y$, $2x^2$, s, 6
• Variable	a letter or symbol that represents a quantity that can vary	x, n, t, s, c, r, m, p
• Coefficient	numerical factor of a term	in the term $-3x$, the coefficient -3
• Constant Term	the number in an expression or equation that does not change	in $4x + 3$, 3 is the constant term
Degree	the value of the greatest exponent	in $3x^2 - 2x + 3$, the degree of the polynomial is 2
Polynomial - poly means 'many'	one term or the sum of terms whose variables have whole number exponents	$5x$, $3x + 2$, $4x+2y-3z-1$
• Monomial	a polynomial with one term	$14x^2$, 14, $5x^2$, $3x$
• Binomial = bi means 2	a polynomial with 2 terms	$2x + 3$
• Trinomial = tri means three	a polynomial with 3 terms	$3x^2 + 2x - 3$

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2

Coefficient

Degree of 2

Constant Term

$$5x^2 - 3x + 4$$

Coefficient of -3

Variable
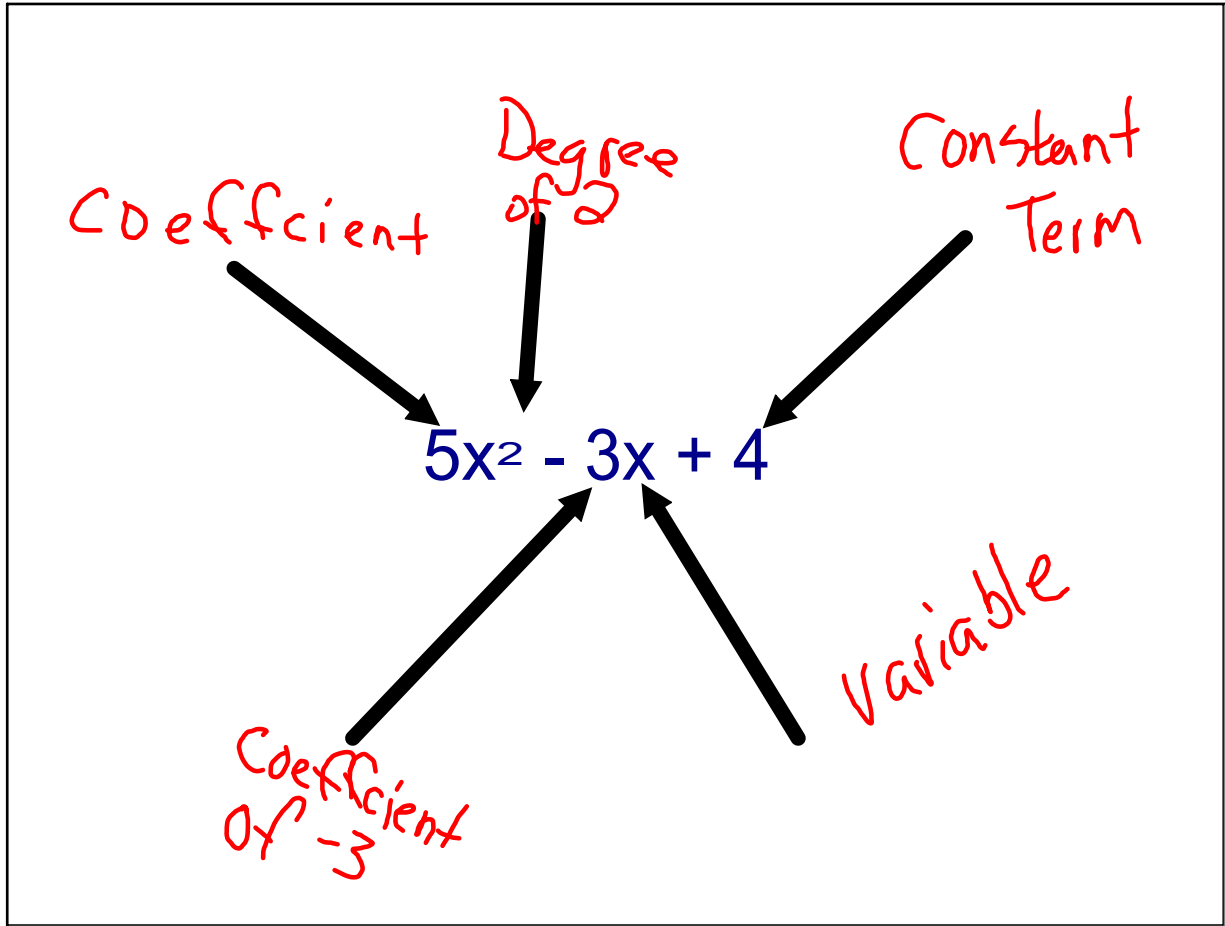
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No need to copy down!

white tile

Classifications of Polynomials

A **monomial** has 1 term.

$|-x|$ $|+x|$

x^2	$-x^2$
x	$-x$
1	-1

Ex:	Drawing
4x	x x x x
6	1 1 1 / 1 1 1
-2p²	$-x^2$ $-x^2$

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No need to copy down!

A **binomial** has 2 terms.

Ex: Drawing
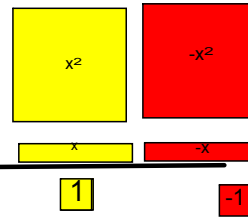
2c - 5
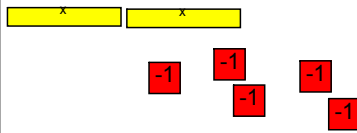
$2m^2 + 3m$
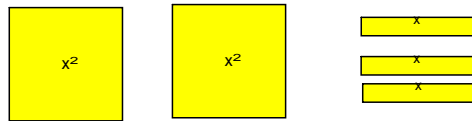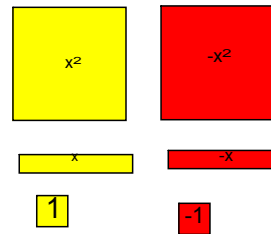
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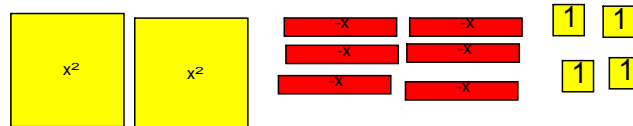
A **trinomial** has 3 terms.

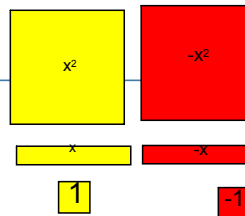Ex: Drawing
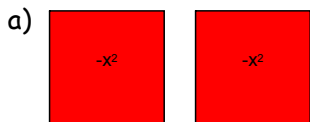
$2h^2 - 6h + 4$

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Example 2   **Modelling Polynomials with Algebra Tiles**
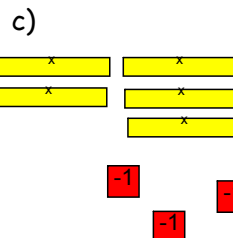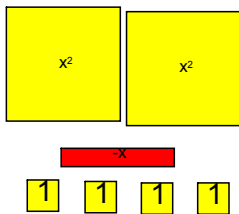
Use algebra tiles to model each polynomial.
Is the polynomial a monomial, binomial, or trinomial? Explain.

a) $-2x^2$ b) $2b^2 - b + 4$ c) $5a - 3$
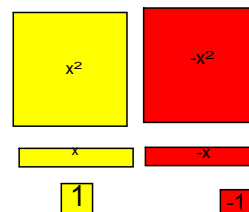
| x^2 | $-x^2$ |

| x | $-x$ |

| 1 | -1 |

SOLUTION:

a)

b) $2b^2 - 1b + 4$

c)

Sep 22-8:25 PM

YOU TRY!

Use algebra tiles to model each polynomial

SOLUTION:

a) $-x^2 + 4$ b) $x^2 + 4x - 6$ c) $3x^2$

| x^2 | $-x^2$ |

| x | $-x$ |

| 1 | -1 |

Homework:

Sep 22-8:25 PM

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