

Name: \_\_\_\_\_

## Algebra Ch. 10

### 10-1 Warm-Up

Simplify.

1.  $3x^2 + x^2 + x$

2.  $\frac{9mn^3}{3n^4}$

3.  $6y^2 - y(y + 5)$

### Algebra 10-1 Polynomials

Word	Definition	Example
Monomial		
Binomial		
Trinomial		
Polynomial		
Standard Form		
Degree		

Linear	Quadratic
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**Examples**

1. Tell whether each expression is a polynomial. If so, give its degree.

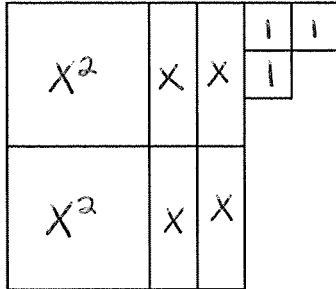
a.  $15x^2y$

b.  $\frac{-6}{x^2}$

c. 201

c.  $12x^5y+x^2$

2. Write a polynomial that represents these tiles. Give the degree.



**Assignment: 10-1 #'s 1-26, skip 2 & 16**

**Algebra 10-2: Investments & Polynomials**

**Warm-Up**

1. Write an example of a trinomial of degree 4. \_\_\_\_\_
2. Write an example of a monomial of degree 2. \_\_\_\_\_
3. Write an example of a binomial with 2 different variables of degree 6. \_\_\_\_\_

## Algebra 10-2: Investments & Polynomials

### Examples

1. As a New Years resolution, Bert has decided to deposit \$100 in a savings account every January 2<sup>nd</sup>. The account earns 3% interest annually. How much will his savings be worth when he makes his 4<sup>th</sup> deposit?

Year	Money
1	
2	
3	
4	

2. Janice has a savings account that has a scale factor of  $x$ . The first year she deposits \$800, the second year \$300, the third year \$450, and the fourth year \$775. What is her balance immediately after the 4<sup>th</sup> deposit?

Year	Money
1	
2	
3	
4	

3. Simplify  $(a^2 - 12) - (a^2 - 4a + 2)$ .

4. Fill in the blank.

$(4x^2 - 6x + 10) + \underline{\hspace{2cm}} = 6x^2 - 8x + 5$ .

**Assignment: 10-2 #'s 2, 8-19**

**Algebra 10-3 Multiplying a Polynomial by a Monomial**

**Warm-Up**

Multiply.

1.  $-6x^2 \cdot 3x^3$

2.  $-5x^4 \cdot 3x^3$

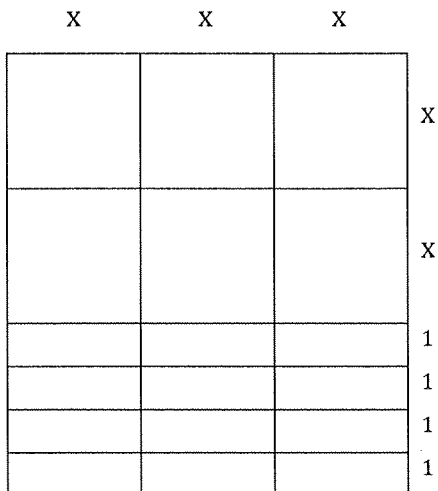
3.  $3x^2 \cdot 4x^4 \cdot -xy$

4. Give an example of the distributive property. \_\_\_\_\_

**Algebra 10-3 Multiplying a Polynomial by a Monomial**

**Examples**

1. Give 2 equivalent expressions that represent the area of this figure.



\_\_\_\_\_

2. Simplify.

a.  $2y(4y - 6)$

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

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

d.  $4b(6b + 3) - a(2a - 4)$

3. Suppose the length of a rectangle is  $l$  ft. Write 2 equivalent expressions for the area if the rectangle's width is 3 ft. more than 4 times the length.

10-3 #'s 1-23, skip 7 & 13

### 10-4 Multiplying Polynomials

#### Warm-Up

Simplify.

1.  $x(x - 5)$

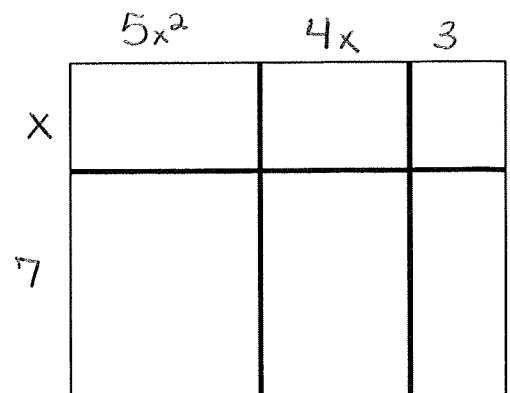
2.  $y^2(9 - 4xy)$

3.  $-x(7xy - 3x)$

#### Algebra 10-4 Multiplying Polynomials

1. Find the total area.

2. Write the area as length times width.



### Try On Your Own

1.  $(n-5)(2n^2 - 3n + 7)$

2.  $(w^2 + 4w + 6)(w^2 + w + 1)$

**Assignment:** 10-4 #'s 4-7, 9-11, 13, 14, 21, 24

### Algebra 10-5 Multiplying Binomials

#### Warm-Up

Simplify.

1.  $6x(2x)$

2.  $11x^2(5x)$

3.  $(3y)(-5y)(-y^2)$

4.  $-9r(5r^4)$

### Algebra 10-5 Multiplying Binomials

#### 2 Methods

1. Create a box. Simplify

	$c$	$d$
$a$		
$b$		

2. Multiply then simplify.

F \_\_\_\_\_

O \_\_\_\_\_

I \_\_\_\_\_

L \_\_\_\_\_

### Examples

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

2. Multiply  $(6 - 2n)(7 + 3n)$ .

Assignment: 10-5 #'s 1-4, 7-15, 18, 22, 23

## Algebra 10-6 Special Binomial Products

### Warm-Up

Expand.

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

2.  $(9 - 4y)(7 - y)$

## Algebra 10-6 Special Binomial Products

3 Patterns

1.  $(a + b)^2$

2.  $(a - b)^2$

3.  $(a + b)(a - b)$

1.  $(x + 5)^2$

2.  $(x - 6)^2$

3.  $(x + 3)(x - 3)$

Assignment 10-6 #'s 1, 2, 6-12, 18, 19, 22, 24, 25, skip 10

**10-5 to 10-6 Review**

**Simplify 1 & 2.**

1.  $(x + 5) - (x^2 + 11)$

2.  $(4a + 6b) + (5 + 12a - b)$

**Fill in the blank.**

3.  $(a^2 + a + 5) + \underline{\hspace{2cm}} = 3a^2 - 2a - 10.$

**Expand.**

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

5.  $(2x + 1)(x^2 - x + 6)$

6. Write a binomial of degree 5.  $\underline{\hspace{2cm}}$

7. Joe deposits \$500 in the bank the first year. For the next 3 years, he deposits \$200 each year. Joe's savings account has a scale factor of  $x$ . How much money was in his account at the end of the fourth year?