

Ch.10 Pre-Test

Warm Up

Combine Like Terms

WEEK 5

$$1) \quad \underline{3x + 5xy - 10x + 5}$$

$$\underline{-7x + 5xy + 5}$$

$$2) \quad \underline{50x - 45x + 10x^2 - 3x^3 + x^2}$$

$$\underline{5x + 11x^2 - 3x^3}$$

$$-3x^3 + 11x^2 + 5x$$

$$3) \quad \overset{\vee}{-y^2} + 2xy - x^2 + \overset{\vee}{y^2}$$

$$\underline{2xy - x^2}$$

Homework Questions?

Self Scoring Scale

4- I can *summarize* the concepts and explain it to others.

3- I can *apply* the concepts to answer questions correctly.

2- I can *apply* the concepts but with some *mistakes*.

1- I *need help* to know how to apply the concepts.

0- I *can't* apply the concepts even with help.

10.1 Adding and Subtracting Polynomials

Goals: • Add and subtract polynomials.

EQ: What is the difference between naming polynomials by degree vs. by terms?

The Unit Organizer

NAME: _____ DATE: _____ Mo/Date/Year

4 BIGGER PICTURE Algebra 1.5

2 LAST UNIT/Experience Quadratic Equations	1 CURRENT UNIT Polynomials & Factoring	3 NEXT UNIT/Experience Rational Equations
8 Student Activities or Assignments	5 UNIT MAP	
<ol style="list-style-type: none"> 10.1 10.2 10.3 10.4 10.5 10.6 10.7 10.8 		
7 UNIT SELF-TEST QUESTIONS	<ol style="list-style-type: none"> When adding & subtracting polynomials, how do you combine like terms? How do you use distributive property, FOIL, and diagrams to multiply polynomials? What is the method for factoring trinomials? How is factoring & the Zero-Product Property used to solve polynomials? 	6 UNIT RELATIONSHIPS Factor Solve Calculate Simplify

Vocabulary

Monomial: One term ex: $2x^3$
power

Degree of a monomial: power of variable

Polynomial: sum of the terms (in Ax^k form) ex: $4x^3 + 2x - 8$

Binomial: two terms ex: $2x + 6$

Trinomial: three terms ex: $2x^3 + x - 5$

Standard form of a polynomial in one variable:

terms placed in descending order

Largest power \longrightarrow Smallest power ex: $4x^2 + 5x + 2$

Degree of a polynomial in one variable:

Largest exponent

Example 1: Find the Degree of a Monomial

a) $-2x^6$ 6

b) $\frac{3}{7}y^1$ 1

c) $23x^0$ 0

Example 2: Identify Polynomials p. 569

Polynomial	Highest power ↓ Degree	Identified by Degree	Identified by Number of Terms
a. -3	<u>0</u>	→ <u>Constant</u>	<u>monomial (1)</u>
b. $-x^1 + 1$	<u>1</u>	→ <u>Linear</u>	<u>binomial (2)</u>
c. $x^2 + 3$	<u>2</u>	→ <u>Quadratic</u>	<u>binomial (2)</u>
d. $\underline{5x^3} - \underline{3x^2} + \underline{x} - \underline{8}$	<u>3</u>	→ <u>Cubic</u>	<u>polynomial (4+)</u>
e) $4x^4 + 3x - 5$	<u>4</u>	→ <u>quartic</u>	<u>trinomial (3)</u>

Example 3: Add Polynomials

Find the sum. Write the answer in standard form.

$$a) (-3x^3 + 11x^2 - 8x + x^5 + 2) + (8x - 2x^4 + 7x^3 - 3 + 12x^2)$$

Solution

$$x^5 - 2x^4 + 4x^3 + 23x^2 + 0x - 1$$

a. **Vertical format:** Write each expression in standard form. Line up like terms vertically.

$$\begin{array}{r} x^5 + 0x^4 - 3x^3 + 11x^2 - 8x + 2 \\ 0x^5 - 2x^4 + 7x^3 + 12x^2 + 8x - 3 \\ \hline x^5 - 2x^4 + 4x^3 + 23x^2 - 1 \end{array}$$

$$b) (3x^2 - 2x + 3) + (x + 4x^2 - 1)$$

Solution

b. **Horizontal format:** Group like terms.

$$\begin{aligned} & \rightarrow (3x^2 - 2x + 3) + (x + 4x^2 - 1) \\ & \underline{\underline{(3x^2 + 4x^2)}} + (\underline{\underline{-2x + x}}) + (\underline{\underline{3 - 1}}) \\ & = \underline{\underline{7x^2}} - \underline{\underline{1x}} + \underline{\underline{2}} \end{aligned}$$

Like Term = Same Variable
Same power

10.1 Day 1 Homework

Combine Like Terms wkst