

Section P.4 Factoring Polynomials

Objective: In this lesson you learned how to factor polynomials.

Course Number

Instructor

Date

I. Polynomials with Common Factors (Page 34)

Factoring is . . .

If a polynomial cannot be factored using integer coefficients,
then it is _____ or _____.

The simplest type of factoring involves a polynomial that can be
written as the product of a monomial and another polynomial.

The technique used here is the Distributive Property in reverse:

$$ab + ac = \underline{\hspace{2cm}}$$

Example : Factor $3w^3 - 12w^2 + 15w$.

What you should learn

How to remove common
factors from polynomials

II. Factoring Special Polynomial Forms (Pages 35–36)

Complete each of the special factoring forms below.

Difference of Two Squares

$$u^2 - v^2 \underline{\hspace{2cm}}$$

Perfect Square Trinomial

$$u^2 + 2uv + v^2 \underline{\hspace{2cm}}$$

$$u^2 - 2uv + v^2 \underline{\hspace{2cm}}$$

Sum of Difference of Two Cubes

$$u^3 + v^3 \underline{\hspace{2cm}}$$

$$u^3 - v^3 \underline{\hspace{2cm}}$$

To recognize perfect square terms, . . .

To recognize a perfect square trinomial, note that . . .

What you should learn

How to factor special
polynomial forms

Example : Factor:
 (a) $64 - 25y^2$ (b) $9x^2 + 12xy + 4y^2$

III. Trinomials with Binomial Factors (Page 37)

To factor a trinomial of the form $ax^2 + bx + c =$
 $(\square x + \square)(\square x + \square)$, the goal is to . . .

What you should learn

How to factor trinomials
 as the product of two
 binomials

Example : Explain how to factor $x^2 + 3x - 18$.

IV. Factoring by Grouping (Page 38)

To factor a polynomial with more than three terms by the
 grouping method, . . .

What you should learn

How to factor
 polynomials by grouping

List four guidelines for factoring polynomials:

- 1)
- 2)
- 3)
- 4)

Homework Assignment

Page(s)

Exercises