

## Goal: Factoring Polynomials

Objectives: I can...

- Name Polynomials
- Factor multiple types of quadratic binomials and trinomials

Essential Questions

- What is considered when naming a polynomial?
- Can you explain how to factor a quadratic trinomial?

## Factoring Polynomials

**Polynomial** - A function that is represented by a series of terms added and/or subtracted together. Linear functions are an example of a polynomial function.

**Naming Polynomials** - Polynomials are named by their highest degree and number of terms.

## How to Name a Polynomial

Example:

Name: \_\_\_\_\_  
Degree Name      Term Name

Degree	Name	# Terms	Name
0	Constant	1	Monomial
1	Linear	2	Binomial
2	Quadratic	3	Trinomial
3	Cubic	4+	Polynomial of ___ terms
4	Quartic		
5	Quintic		

## Factoring Polynomials

We are going to focus on factoring quadratic binomials and trinomials. To factor, you need to break down the polynomial into monomials and/or binomials of smaller degrees.

**Example:**  $x^2 - 4x - 12$

**Factors:**  $(x - 6)(x + 2)$

**Check:**

## Factor the Quadratic

$$x^2 + 7x + 12$$

## Factor the Quadratic

$$x^2 - 3x + 2$$

## Factor the Quadratic

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

## Factor the Quadratic

$$x^2 + 6x + 9$$



## Factor the Quadratic

$$x^2 - 16$$

## Factor the Quadratic

$$x^2 + 7x + 10$$

## Factor the Quadratic

$$x^2 + 3x - 18$$

## Factor the Quadratic

$$x^2 - 9$$

## Factor the Quadratic

$$2x^2 - 38x + 68$$

## Factor the Quadratic

$$3x^2 - 24x + 36$$

## Factor the Quadratic

$$4x^2 + 16x - 20$$

## Factor the Polynomial

$$2x^4 - 18x^3 + 28x^2$$



## Factor the Polynomial

$$5m^5 - 20m^3$$

## Factor the Quadratic

$$3x^2 + 11x - 4$$

## Factor the Quadratic

$$2x^2 + 11x + 14$$

## Factor the Quadratic

$$5x^2 + 27x - 18$$

## Factor the Quadratic

$$7x^2 - 22x + 3$$

## Factor the Quadratic

$$6x^2 + 11x + 3$$

## Factor the Quadratic

$$4x^2 - 8x - 5$$

## Factor the Quadratic

$$6x^2 - 19x + 8$$



## Factor the Quadratic

$$9x^2 + 33x - 60$$

## Factor the Polynomial

$$20x^3 + 34x^2 + 6x$$

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