

# TRIPLES ACTIVITY

J

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

D

$$4x^2 - 4x = 2x - 8$$

H

$$-x^2 + 13x = 64 - 3x$$

A

$$x^2 - 8x + 19 = 0$$

C

$$4x^2 - 5x + 1 = 3x^2$$

# THE DISCRIMINANT *of Quadratic Equations*

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# THE DISCRIMINANT

## *Triples Activity*

**Objective:** Students will practice finding the discriminant of a quadratic equation, then using this value to determine the type of solutions for the equation. This includes two rational solutions, one rational solution, two irrational solutions, and no real solutions. This activity works best with an Algebra 2 level class that is familiar with imaginary solutions.

**Description:** There are 12 total cards. Once matched, there will be three equations with two rational solutions, three equations with one rational solution, three equations with two irrational solutions, and three equations with two imaginary solutions. A recording worksheet is included for students to identify their triples along with their discriminants.

### How to use this activity:

I recommend that students work in pairs or independently on this activity. Print and distribute the cards and recording worksheet. They can use loose-leaf notebook paper to show their work or write on the back of the card. Once all cards are solved, they match all the "triples" together. The triples are the cards with the matching answers. They can record their answers on the recording sheet.

### SAMPLE TRIPLE:

### RECORDING WORKSHEET:

**A**

$$x^2 - 8x + 19 = 0$$

**D**

$$4x^2 - 4x = 2x - 8$$

**J**

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

THE DISCRIMINANT <i>Triples Activity!</i>				Name: _____
				Date: _____ Per: _____
<b>Directions:</b> Find the discriminant of each quadratic equation shown on the cards. Use the discriminant to classify the type of solutions. Record the card letters with their corresponding discriminants below.				
TWO RATIONAL SOLUTIONS	ONE RATIONAL SOLUTION	TWO IRRATIONAL SOLUTIONS	TWO IMAGINARY SOLUTIONS	
Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	
Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	
Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	Card Letter: _____ Discriminant: _____	

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