Name:_____ Hour: ____

Algebra 2A **Lesson: 3.1**

Solving Quadratic Equations by Factoring

Learning Targets:

Factoring Trinomials

Review:

- ✓ Any trinomial: $ax^2 + bx + c = 0$ Example: $2x^2 + 7x - 15 = 0$

- ✓ Perfect square trinomial: Example: $x^2 - 16x + 64 = 0$
  $x^2 + 2ax + a^2 = 0$ or $x^2 - 2ax + a^2 = 0$

- ✓ Difference of two squares: $x^2 - b^2 = 0$ Example: $x^2 - 64 = 0$

Hint: always check for GCF first!

Vocabulary

- **Zero Product Property:**

- To write a quadratic equation with roots **p** and **q**:

Instruction

Example 1: $3x^2 = 15x$

Example 2: $4x^2 - 5x = 21$

Example 3: *Write a quadratic equation with roots 3 and -5. Remember…(x-r)(x-p)=0.*

Example 4: *Write a quadratic equation with roots -7/8 and 1/3..*

Your Turn		
	Your Turn 1: Solve by factoring $5x^2 + 28x - 12 = 0$	Your Turn 2: Solve by factoring $12x^2 - 8x + 1 = 0$
	Your Turn 3: Write a quadratic equation with the given roots: -5.	Your Turn 4: Write a quadratic equation with the given roots: -4/9 and -1.

Solving Quadratic Equations by using Quadratic Formula

Learning Targets:

Vocabulary

Quadratic Equation:

Quadratic Formula:

Discriminant:

Two rational roots:

_____

_____

Two irrational roots:

_____

_____

One rational root:

_____

Two complex roots

_____

Instruction

Example 1: $2x^2 + 5x + 3 = 0$
a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Example 2: $4x^2 + 20x + 29 = 0$
a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Example 3: $25\ x^2 - 40x = -16$
a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Example 4: $x^2 - 8x = -14$
a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Your Turn

Your Turn 1: $x^2 + 2x - 35 = 0$

a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Your Turn 2: $x^2 - 6x + 21 = 0$

a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Your Turn 3: $3x^2 + 5x = 2$

a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____

Your Turn 4: $x^2 - 11x + 24 = 0$

a = ___ b = ___ c = ___

Discriminant: _____

Number & type of roots: _____