

**Factoring Functions Class Work (Continued)**

✎ **Objective:** You will be able to rewrite quadratic expressions.

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★ Consider the function  $2x^2 - 9x - 56$ .

What are your ideas on how to factor this function effectively? Turn and talk with a partner once you are ready to discuss! 😊

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★ **Method 1: Factor by Grouping**

$$2x^2 - 9x - 56$$

Multiply  $a \cdot c$

Find factors of  $a \cdot c$   
that sum to  $b$ .

Rewrite  $b$  as a sum  
of the factors.

Factor a GCF from each half  
of the polynomial you created.

Factor out the binomial  
that is a GCF.

→ ***Practice this method!*** (Don't forget to check your work!)

$$\text{Factor } 12w^2 - 13w - 4$$

★ **Method 2: Guess & Check** (Be sure to use pencil for this method especially!)

$$2x^2 - 9x - 56$$

$$(\_\_x + \_\_)(\_\_x + \_\_)$$

→ ***Practice this method!*** (Don't forget to check your work!)

$$\text{Factor } 6z^2 + 13z - 5$$

**★ Method 3: Slide & Divide**

$$2x^2 - 9x - 56$$

“Slide” a over by multiplying it by c to create a new trinomial.

Factor your trinomial.

Divide each constant by a.

\*If you do not obtain an integer when dividing, simplify the fraction, and “slide the denominator so that it becomes the coefficient of x in the binomial.

**→ *Practice this method!* (Don't forget to check your work!)**

$$\text{Factor } 8y^2 - 47y - 6$$

★ **Mixed Practice:** Factor each quadratic expression. Try to use each method at least one more time before deciding which method you prefer the most. 😊

\*You may want to use more than one method as an additional way to check!

1.  $4x^2 - 19x - 5$

2.  $6v^2 + 7v - 24$

3.  $3w^2 + 5w - 28$

4.  $4h^2 - 4h - 3$

5.  $7b^2 - 68b - 20$

6.  $8s^2 - 18s - 5$

7.  $6r^2 - 3r - 9$

8.  $2x^2 - 5x - 7$

9.  $11q^2 + 87q - 8$

10.  $4m^2 - 29m + 30$

**★ Sometimes quadratic expressions have values of  $a$  that are not equal to one, and lack a greatest common factor.**

***In such situations, which method of factoring do you prefer, and why?***

**★ Write any question(s) you have regarding quadratics so far.**