

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**UNIT 3 • MODELING AND ANALYZING QUADRATIC FUNCTIONS**

**Lesson 1: Creating and Solving Quadratic Equations in One Variable**

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**Practice 3.1.2: Factoring Expressions by the Greatest Common Factor**

**A**

For problems 1–6, factor each expression by the greatest common factor if a common factor exists, or state that the terms have no common factor.

1.  $3x^3 + 5x^2$

4.  $x^2 - 9x + 3$

2.  $2x^2y - 8xy^2$

5.  $x^3y^2 - 2x^2y^3 + 5xy^2$

3.  $y^4 + 2y^2$

6.  $7x - 21x^2y$

Use what you have learned about factoring polynomials by the GCF to complete problems 7 and 8.

7. Christopher has two bags of marbles. The number of marbles in the first bag can be represented by the monomial  $45x^2y$ , and the number of marbles in the other bag can be represented by  $60x^3y^2$ . What is the GCF of these two monomials?

8. An equilateral triangle has a perimeter of  $(15x^3 + 33y^2)$  feet. What is the length of each side?

Use the following information to complete problems 9 and 10.

Samuel and Ariana are competing in a speed round for an open position on the math team. To win the spot, each student must factor the same polynomial expression,  $12xyz^2 + 16x^2y^2z - 32x^2yz$ , by finding the GCF.

9. Samuel's final result was  $2xyz(6z + 8xy - 16x)$ . Explain his error, if any.

10. Ariana's final result was  $4xyz^2(3x + 4xy - 8xyz)$ . Explain her error, if any.

**Day 1 – Factor GCF of a Quadratic Expression**

**Name:** \_\_\_\_\_

**HW Practice Assignment**

**Date:** \_\_\_\_\_ **Block:** \_\_\_\_\_

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**Review: Multiply the polynomials**

a.  $(x + 4)(x - 3)$

b.  $(x + 8)^2$

c.  $(2x + 4)(5x - 1)$

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**Factor the following Quadratic Expressions.**

1.  $x^2 + 10x$

2.  $x^2 - 9x$

3.  $x^2 - 6x$

4.  $3b^2 - 81b$

5.  $10x^2 + 40x$

6.  $8x^2 + 24x$

10.  $-2x^2 - 4x$

11.  $-30x^2 + 25x$

12.  $-28x^2 - 14x$