

## Operations with Polynomials—REVIEW

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

1. Simplify

$$(4x^3 - 6x^2 + 9) + (2x^3 - 3x^2 + 7)$$

$$6x^3 - 9x^2 + 16$$

2. Simplify

$$(3a^3 + 9a^2 + 6a) - (2a^3 + a^2 - 4a)$$

$$a^3 + 8a^2 + 10a$$

3. Simplify

$$(3x^2 - 4) + (4x^2 + 2x - 1)$$

$$7x^2 + 2x - 5$$

4. Simplify

$$(x^2 + 8x - 13) - (4x^2 - 5x - 8)$$

$$-3x^2 + 13x - 5$$

5. Find the GCF

$$6x^5 + 24x^4 + 8x^3$$

$$2x^3(3x^2 + 12x + 4)$$

6. Find the GCF

$$12x^5y^4 + 20x^4y^3 - 8x^3y^3$$

$$4x^3y^3(x^2y + 5x - 2)$$

7. Factor out the GCF

$$4x^5 + 20x^4 + 8x^3$$

$$4x^3(x^2 + 5x + 2)$$

8. Factor out the GCF

$$6x^5 + 24x^4 + 8x^3$$

$$2x^3(3x^2 + 12x + 4)$$

9. Simplify

$$4x(x^2 + 6)$$

$$4x^3 + 24x$$

10. Simplify

$$-2x^3(x^2 + 3x - 4)$$

$$-2x^5 - 6x^4 + 8x^3$$

## Operations with Polynomials—REVIEW

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

11. Simplify

$$(3x + 7)(x + 5)$$

$$3x^2 + 22x + 35$$

12. Simplify

$$(2x + 1)(4x - 3)$$

$$8x^2 - 2x - 3$$

13. Simplify

$$(x + 2)(2x^2 - 3x + 2)$$

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

14. Simplify

$$(2x^2 - 9x + 11)(2x + 1)$$

$$4x^3 - 16x^2 + 13x + 11$$