

## Factoring Using the Greatest Common Factor(GCF):

### Greatest Common Factor (GCF)

1. Write the prime factorization of the numbers
2. Circle the pairs
3. Multiply to get the GCF

1. Find the GCF of 15 and 27

2. Find the GCF of 24 and 30

3. Find the GCF of 27 and 36

4. Find the GCF of 24 and 60

### **Finding the GCF of monomials**

5. Find the GCF of  $x^4$  and  $3x^3$

6. Find the GCF of  $4x^7$  and  $16x^4$

7. Find the GCF of  $7x^3y$  and  $28xy^4$

8. Find the GCF of  $8x^4y^2z$  and  $16xy^5z^4$

**Finding the GCF of 3 terms**

9. Find the GCF of 63, 84, and 126

10. Find the GCF of  $12x^3$ ,  $14x^6$ , and  $18x^2$

11. Find the GCF of  $17x^5$ ,  $x^{21}$ , and  $4x^9$

12. Find the GCF of  $18x^6y^3$ ,  $9x^{10}y^2$ , and  $3x^6y^4$

## Factoring Monomials

\*\*\*\*To factor a polynomial means to write the polynomial as a product of prime polynomials.

1. Find the GCF of each of the terms
2. Factor out the GCF from each of the terms

1.  $6a^3 + 15a =$

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

2.  $32b^2 + 12b =$

9.  $a^{5n} + a^{2n} =$

3.  $12a^5b^2 + 16a^4b =$

10.  $3x^2y - 9xy + 12y =$

4.  $9x^2 + 18y^4 =$

11.  $25x^5 + 30x^3 - 15x^2 =$

5.  $7x^2 - 15y =$

12.  $20a^5b^3 + 30a^3b^2 - 40a^2b^3 =$

6.  $y^4 - 3y^2 - 2y =$

13.  $4x^6 + 16x^{10} + 64x^{12} =$

7.  $2x^5 + 3x^4 - 4x^2 =$

1. Find the GCF of 50 and 75
2. Find the GCF of 56 and 24
3. Find the GCF of 42 and 21
4. Find the GCF of  $9st$  and  $12tg$
5. Find the GCF of  $7a$  and  $14b$
6. Find the GCF of  $18xy^2$  and  $-9y^3$
7. Find the GCF of  $-32a^5b^2$  and  $64a^3b^4c$

**Factor a monomial out of each polynomial.**

8.  $6a^2 - 15a =$

9.  $4x^3 - 10x^4 =$

10.  $3a^2 - 3x^2 =$

11.  $14x + 23y^3 =$

12.  $x^5 - x^3 - x =$

13.  $16x^2 - 12x + 24 =$

14.  $5b^2 - 10b^3 + 25b^4 =$

15.  $x^{2n} - x^n =$

16.  $x^{3n} - x^{2n} =$