

## Notes & Examples

### ★ Multiply

$$1. \quad \overbrace{3x(-2x+4)} \\ -6x^2 + 12x$$

$$2. \quad \overbrace{-x^2(2x-6)} \\ -2x^3 + 6x^2$$

$$3. \quad \overbrace{(x-2)(x+5)} \\ x^2 + 5x - 2x - 10 \\ \underbrace{\hspace{2cm}} \\ x^2 + 3x - 10$$

$$4. \quad \overbrace{(5x+4)(2x-1)} \\ \del{10x^2} \\ 10x^2 - 5x + 8x - 4 \\ \underbrace{\hspace{2cm}} \\ 10x^2 + 3x - 4$$

### Factor the GCF

$$5. \quad 3x^2 - 9x \quad \text{GCF: } 3x \\ 3x(x-3)$$

$$6. \quad -12x^2 - 4x \quad \text{GCF: } -4x \\ -4x(3x+1)$$

$$7. \quad 21x^2 - 14x + 35x^3 \quad \text{GCF: } 7x \\ 7x(3x - 7 + 5x^2) \\ 7x(5x^2 + 3x - 7)$$

### Factoring Trinomials

$$8. \quad x^2 + 7x + 12 \\ (x+3)(x+4)$$

Multiply  
A·C = 12  
3x    4x  
7  
B  
Add

$$9. \quad x^2 + x - 20 \\ (x+5)(x-4)$$

A·C = -20  
5    -4  
1  
B