

Common Monomial Factoring

$$12x^4 + 8x^3 - 8x^2 + 16x$$

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

Difference of Two Squares

$$4n^2 - 1 = (2n + 1)(2n - 1)$$

Perfect Square ↑ minus ← Perfect Square

Perfect Square Trinomial

$$9p^2 + 6p + 1 = (3p + 1)^2$$

Perfect Square ↑ Double the product of √ of 1st & last terms ↑ Perfect Square (3p+1)(3p+1) 9p²+3p+3p+1

Trinomial - Leading Coefficient is One

$$k^2 + 3k - 70$$

$$(k - 7)(k + 10)$$

$$k^2 + 10k - 7k - 70$$

- 1, 70
- 1, -70
- 2, -35
- 2, 35
- 5, -14
- 5, 14
- 7, -10
- 7, 10

Trinomial - Leading Coefficient is Prime

$$7n^2 - 5n - 18$$

$$(7n - 2)(n + 9) \quad \text{No!}$$

63n

$$(7n + 9)(n - 2) \quad \text{Yes!}$$

9n -14n

Trinomial - Leading Coefficient is Composite

$$8n^2 - 26n + 21$$

$$(4n - 3)(2n - 7) \quad \text{No!}$$

-6n -28n

$$(4n - 7)(2n - 3) \quad \text{Yes!}$$

-14n -12n