

The Math Center presents:

A Tip Sheet on

FACTORING

Difference of Two Squares

$$(A + B)(A - B) = A^2 - B^2$$

Examples:

$$(x + 4)(x - 4) = x^2 - 16$$

Perfect Trinomial Squares

$$(A + B)^2 = A^2 + 2AB + B^2$$

$$(A - B)^2 = A^2 - 2AB + B^2$$

$$(x + 5)^2 = x^2 + 10x + 25$$

$$(c - 6)^2 = c^2 - 12c + 36$$

Difference of Two Cubes

$$A^3 - B^3 = (A - B)(A^2 + AB + B^2)$$

$$a^3 - 27 = (a - 3)(a^2 + 3a + 9)$$

Sum of Two Cubes

$$A^3 + B^3 = (A + B)(A^2 - AB + B^2)$$

$$x^3 + 125 = (x + 5)(x^2 - 5x + 25)$$

Factor By Grouping

Expression One

$$ac + ad + bc + bd$$

$$a(c + d) + b(c + d)$$

$$(a + b)(c + d)$$

$$5x + 3xy + 15a + 9ay$$

$$x(5 + 3y) + 3a(5 + 3y)$$

$$(5 + 3y)(x + 3a)$$

Expression Two

$$ac + ad - bc - bd$$

$$a(c + d) - b(c + d)$$

$$(a - b)(c + d)$$

$$2a^2 + 4a - 5a - 10$$

$$2a(a + 2) - 5(a + 2)$$

$$(a + 2)(2a - 5)$$

MCC offers a **Math Lab** at both the Bedford and Lowell campuses. Tutoring is available weekdays and some evenings, at no charge. Schedules are posted on the door. Drop in.

In Bedford: AR 214, Tel: (781) 280-3707

In Lowell: City Campus, Room 406, Tel. (978) 656 - 3368