Name: _____

NOTES:

Today is all about factoring with _____ terms.

To factor with four terms, we will use something called **Factoring by _____.**

Step 1: Group the _____ _____ terms together and group the _____ _____ terms together.

Step 2: Factor out the _____ from each _____ (Remember, binomial means two terms!)

Step 3: Factor out the _____ binomial.

Step 4: Write in the form _____.

Method 2: Factoring by Grouping
Factor the following example problems by grouping. (Notice they all have four terms!)

1) $x^3 + 4x^2 + 8x + 32$	2) $a^3 + 2a^2 + 9a + 18$
3) $w^3 + 5w^2 - 8w - 40$	4) $v^3 - v^2 - 3v + 3$
5) $16a^3 + 8a^2 - 6a - 3$	6) $10m^3 - 25m^2 + 4m - 10$
7) $a^3 + a^2b + ab + b^2$	8) $9y^3 + 18y^2 + y + 2$

HOMEWORK ASSIGNMENT:

Factor the following example problems by grouping.
Remember you can check your answers using the distributive property.

1) $x^3 + x^2 + 2x + 2$	2) $x^3 + 4x^2 + 2x + 8$	3) $7k^3 - 35k^2 + 6k - 30$
4) $2m^3 - 6m^2 - 3m + 9$	5) $10x^2 + 2xy - 15x - 3y$	6) $9x^2 - 3xy + 6x - 2y$
7) $4n^3 + 3n^2 + 4n + 3$	8) $10a^3 + 4a^2 + 5a + 2$	9) $4m^2 + 16mn - 7m - 28n$
10) $2x^3 + x^2y - 6xy^2 - 3y^3$	11) $20v^3 - 8v^2 + 15v - 6$	12) $5x^2y - x^2 + 5y - 1$