1/15/12 Factoring the Greatest Common Factor Part deux, this time it's personal.

Again: Things to Remember:

- Divide by what's in common.
- Whatever you divide by goes on the outside of the parentheses.

Factor

Ex 1 $12m^5n^2 + 9m^4n + 6m^3n^2$

$\frac{12m^5n^2}{3m^3n} + \frac{9m^4n}{3m^3n} + \frac{6m^3n^2}{3m^3n}$

$3m^3n(4m^2n + 3m + 2n)$

$m^5 = mmmmm$, $3m^3n = mmmn$, m^2 remains

$mmmm$, mmm

Ex 2 $x^5 + x^4 + x^3 - x^2$

$\frac{x^5}{x^2} + \frac{x^4}{x^2} + \frac{x^3}{x^2} - \frac{x^2}{x^2}$

$x^2(x^3 + x^2 + x - 1)$

3 $2x^7 - 2x^6 - 64x^5 + 4x^3$

$\frac{2x^7}{2x^3} - \frac{2x^6}{2x^3} - \frac{64x^5}{2x^3} + \frac{4x^3}{2x^3}$

$2x^3(x^4 - x^3 - 32x^2 + 2)$

Shortcut: When you divide variables, you just subtract the exponents.