2-4 Extra for Honors! **Sept 19**

Factor completely:

Ex. 1 $x^2 + 12x + 36 - y^2$ $A^2 - B^2 = (A-B)(A+B)$

$(x^2 + 12x + 36) - y^2$

$(x+6)^2 - y^2$

$(x+6+y)(x+6-y)$

Ex. 2 (factor by Completing the square)

~~$x^2 - 50x + 625$~~ $x^2 - 50x + 589$

$(x^2 - 50x + 625) + 589 - 625$

$(x-25)^2 - 36$

$(x-25-6)(x-25+6)$

$(x-31)(x-19)$

Ex. 3 $3x^4 - 48$

$3(x^4 - 16)$

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

Ex. 4

$81x^4 - 90x^2 + 25$

$(9x^2)^2 - 2(9x^2)(5) + (5)^2$

$(9x^2 - 5)^2$

Ex. 5

$30x^4 + 5x^2 - 60$

$5(6x^4 + x^2 - 12)$ prod $-72x^4$

$5(3x^2 - 4)(2x^2 + 3)$ sum $1x^2$ $9x^2, -8x^2$

$-8x^2 \quad 9x^2$

Ex. 6 $2x^{2n} + x^n - 6$

$2x^2 + x - 6$

$2(x^n)^2 + (x^n)^1 - 6$

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

Ex. 7 $(x+4)^2 - 17(x+4) - 84$

$y^2 \quad -17y \quad -84$

$((x+4)-21)((x+4)+4) = (x-17)(x+8)$