6-4 Factoring for Alg 2 Honors!

Std. 4.0

ex. 1 Factor by grouping: $(49x^2 - 14x) + (1 - 9n^2)$

~~$7x(7x-2) + (1+3n)(1-3n)$~~

$(49x^2 - 14x + 1) - 9n^2$

$(7x-1)^2 - 9n^2$

$(7x-1+3n)(7x-1-3n)$

Factoring by completing the square

ex. 2 $x^4 + 64$

CTS → $\left(x^4 + \underbrace{16x^2}_{2(x^2)(8)} + 64\right) - 16x^2$

factor → $(x^2+8)^2 - 16x^2 = (x^2+8+4x)(x^2+8-4x)$

$A^2 - B^2$

ex. 3 $x^2 - 50x + 589$

$(x^2 - 50x + \underbrace{625}) + 589 - \underline{625}$

$(x-25)^2 - 36 = (x-25-6)(x-25+6)$

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