Office hours- Mon, Sept. 27

Last week:

WebWorks due this Fri. { - AC-method (§6.2), - Difference of squares (§6.3) } techniques to factor quadratic polynomials ax^2+bx+c

tomorrow:
- Zero Product Property
(factoring a quadratic in order to solve a quadratic eqn

§6.5

x^2+b^2 ← constant term.

$x^2-b^2 = (x-b)(x+b)$

FOIL $= x^2+\cancel{1}x-\cancel{b}x-b^2$
$= x^2-b^2$ ✓

Ex: $x^2-25 = (x-5)(x+5)$

WW, "AC-Method" #3

$1x^2 - 6x + 8$

two factors of $ac = c = 8$ which sum to $b = -6$

$= (x^2 - 4x) - 2x + 8)$ $\Rightarrow$ we need 2 negative factors (why?)

$= x(x-4) - 2(x-4)$

$= (x-4)(x-2)$

FOIL

$8 = (-4)(-2)$ and $(-4) + (-2) = -6$

AC-Method, #5

$3x^2 + 11x + 6$

} 2 factors of $ac = (3)(6) = 18$ which sum to $b = 11$?

18

1, 18

2, 9 ← $2+9=11$

3, 6

$= (3x^2 + 2x) + (9x + 6)$

GCF: x GCF: 3

$= x(3x+2) + 3(3x+2)$

$= \boxed{(3x+2)(x+3)}$

Alternatively: $3x^2 + 11x + 6$

$= [3x^2 + 9x] + [2x + 6]$

GCF: $3x$ GCF: 2

$= 3x(x+3) + 2(x+3) = \boxed{(x+3)(3x+2)}$