1-3 Factoring Quadratics

(Leading Coefficient > 1)

Objectives:

1-3a: I can factor a trinomial with a leading coefficient greater than 1.

Grouping

$5x^2 - 10x, -4x + 8$

$5x(x-2) - 4(x-2)$

$(x-2)(5x-4)$

$4x^2 - 16x, -x + 4$

$4x(x-4) - 1(x-4)$

$(x-4)(4x-1)$

$x^2 - 2x - 8$

$(x-4)(x+2)$

$x^2 - 12x + 27$

$(x-3)(x-9)$

May 31-3:15 PM

[How to Factor a Quadratic]

Factoring quadratics in the form $ax^2 + bx + c$

1. Factor out the GCF
2. Multiply a and c
3. Find two factors of ac that add to b
   *If ac is negative, factor.s must have opposite signs
   *If ac is positive, factors must have same (+ or -) signs
4. Re-write equation with b split up into factors
5. Find the GCF by grouping
6. Factor the GCF of the whole

Dec 27-4:04 PM

Factor the following:

1) $2x^2 + 6x - 8$

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

$2(x-1)(x+4)$

$3x^2 + 11x + 6$

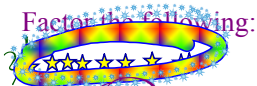
1) $3 \cdot 6 = 18$

2) 18: 9, 2

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

Dec 27-4:18 PM

Factor the following:



$3x^2 - 2x - 5$

1) $3 \cdot -5 = -15$

2) -15: $5, -3$; $-5, 3$

3) $3x^2 - 5x + 3x - 5$

$2x^2 + 3x - 9$

1) $2 \cdot -9 = -18$

2) -18: $-6, 3$; $6, -3$

3) $2x^2 + 6x, -3x - 9$

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

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

Jun 6-9:13 AM

Factor the following:

$5x^2 + 10x + 20$ $2x^2 + 22x + 60$

Jun 6-9:15 AM

#6) $2x^2 + 7x - 7$

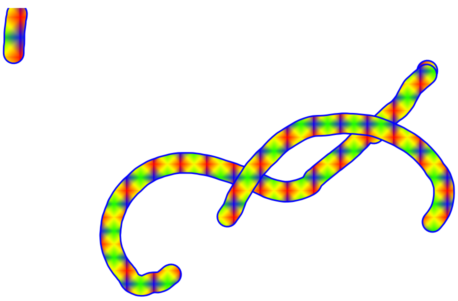
-14

Not Factorable

#1-4 Just w... as 4 terms (don't finish grouping)

#5-10 go all the way

Aug 30-9:36 AM



Aug 30-10:18 AM

$2x^2 - 9x + 7$

$2x^2 - 7x - 2x + 7$

$x(2x-7) - 1(2x-7)$

$(2x-7)(x-1)$

$16x^2 - 9$

$(4x+3)(4x-3)$

$2x^2 - 2x - 15$

$(x-5)(x+3)$

$-2x^2 \quad -20$

$-2(x^2 - 7x + 10)$

$-2(x-5)(x-2)$

Aug 30-10:22 AM