

1-3 Factoring Polynomials

Objectives:

1-3a: I can factor difference of squares binomials.

1-3b: I can factor expressions using multiple factoring methods.

Review 1-1c: I can solve equations using factoring

May 31-3:15 PM

Factoring Methods

1. GCF -
2. Riddle -
3. Grouping -
4. Riddle & Grouping -

Dec 27-4:04 PM

Completely factor the quadratic expression.

What two methods would apply here?

$$2x^3 + 9x^2 + 4x$$

$$\times (2x^2 + 9x + 4)$$

$$\times (x+4)(2x+1)$$

$$2x^2 + 9x + 4$$

$$\begin{array}{r} 8 \\ 48 \overline{) 1} \\ \underline{2x} \end{array}$$

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

Handwritten notes and diagrams for factoring $2x^2 + 9x + 4$:

- Initial expression: $2x^2 + 9x + 4$ with arrows pointing to coefficients 2, 9, and 4.
- Factored form: $2x(x+4) + 1(x+4)$
- AC method grid:

	2	4	
2	1		$4+2=6$
1	4		$8+1=9$

Dec 27-4:18 PM

Completely factor the quadratic expression.

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

$$\times (x^2 + 6x + 9)$$

$$\times (x+3)(x+3)$$

$$\begin{array}{r} 9 \\ 3 \overline{) 3} \end{array}$$

Jun 6-9:13 AM

Factor each.

$$-2x^2 - 14x + 20$$

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

$$\begin{array}{r|l} -10 & \\ \hline -5 & 2 \\ 5 & -2 \\ 1 & 10 \\ 1 & -10 \end{array}$$

$$\begin{array}{r|l} 24 & \\ \hline 12 & 2 \\ 6 & 4 \\ 3 & 8 \\ 1 & 24 \end{array}$$

$$-3x^2 - 2x - 8$$

$$-(3x^2 + 2x + 8)$$

Hint: Always factor out a negative GCF if it is on the first term.

Jun 6-9:15 AM

Solve by factoring

$$4m^2 - 10m + 4 = 0$$

May 31-11:56 AM

Solve by factoring

$$2n^2 + 5n + 7 = 5$$

$$2n^2 + 5n + 2 = 0$$

May 31-11:58 AM

Hmmm...now what?

$$x^2 - 4$$

$$x^2 + 0x - 4$$

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

$$\begin{array}{r} -4 \\ \hline 2 \quad -2 \end{array}$$

$$4x^2 - 9$$

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

Jun 6-9:17 AM

Solve by factoring

$$x^2 - 4 = 0$$

$$4x^2 - 9 = 0$$

Jun 6-9:21 AM

$x^2 + 4$

Doesn't work with

$(x+2)(x+2)$

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

$x^2 + 4x + 4$