

Lesson 6.3 Factoring Trinomials

Sunday, March 9, 2025 9:56 PM

Click the link below for the interactive Pear Deck PowerPoint

<https://app.peardeck.com/student/tcsaokrub>



MCA Lesson
6.3 Factoring

6

Factoring and Solving Equations



6.3 More About Factoring Trinomials

1

Example 1 – Factoring a Trinomial 1

Factor the trinomial $4x^2 - 4x - 3$.

$$\begin{aligned} & \text{Original trinomial: } 4x^2 + 2x - 6x - 3 \\ & \text{Grouping: } (4x^2 + 2x) - (6x + 3) \\ & \text{Factored form: } 2x(2x + 1) - 3(2x + 1) \\ & \text{Final factored form: } (2x - 3)(2x + 1) \end{aligned}$$

Factor the trinomial $2x^2 + x - 15$.

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

Example 3 – Factoring a Trinomial

Factor the trinomial $6x^2 + 5x - 4$.

$$6x^2 - 3x + 8x - 4$$

$$\begin{array}{r} -24 \\ 8 \quad 3 \\ \cancel{+} \quad \cancel{-3} \\ 5 \end{array}$$

$$\begin{array}{r} -24 \\ 8 \quad 3 \\ 6 \quad 4 \\ \cancel{+} \quad \cancel{-3} \\ 2 \quad 12 \end{array}$$

$$3x(2x-1) - 4(2x-1) \quad (3x+4)(2x-1)$$

Example 4 – Factoring Completely

Factor $4x^3 - 30x^2 + 14x$ completely.

Solution:

Begin by factoring out the common monomial factor.

Now, for the new trinomial $2x^2 - 15x + 7$, $a = 2$ and $c = 7$.

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

-1x
-14x

Desmos activity

- 1st Period Click Link and Login:
- <https://student.desmos.com/activitybuilder/students>

<https://student.desmos.com/activitybuilder/student-greeting/67ce43f5a592274ed5c8fd2f>

- 8th Period Click Link and Login:
- <https://student.desmos.com/activitybuilder/student-greeting/67ce43f5a592274ed5c8fd2e>