

Algebra 1B Live Lesson

U3L4 - Multiplying Special Cases (Chapter 8-4 in textbook)



Agenda



1. Review selected problems and topics from U3L4.

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template



1. Announcements/To Do's
2. School-Wide Learner Outcomes
3. LL Objectives
4. Vocabulary words
5. Problems
6. Summary (End of class)

1. Write down important details.
2. What are you going to work on this week?
- 3.
4. Definitions (fill in as we go)
5. Steps to solving problems
6. 1 or 2 sentences about the LL class.

Reminders and To – Do's



Information

1. Complete 1 math lesson per day.
2. Check your WebMail every day
3. Be prepared to spend 4 - 6 hours per day on schoolwork.
4. Remind your Learning Coach to take daily attendance

What to do

1. Go to your Planner in Connexus to find the math lesson for the day
2. Go to Connexus to find WebMail
3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's



Information

5. Go to the Message Board first for information about our math class.

6. Contact Mr. Elizondo for math questions.

Remember: You need at least 2 phone calls with Mr. Elizondo per semester.

What to do

6. Call (559) 549 - 3244 and leave a voicemail if call is not answered.

Make an appointment at:
<https://elizondo.youcanbook.me>

Send a WebMail

U3L4 – California Common Core State Standards



- HSA-APR.A.1: Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

U3L4 - Objectives



- Find the square of a binomial and find the product of a sum and difference

U3L4 - Vocabulary



- FOIL
- tables
- binomial
- polynomials
- Distributive Property

U3L4 – Introduction



- There are special rules you can use for certain products.
 - Square of a binomial
 - Product of a sum and difference
- These are short cuts that will help you simplify these problems faster.

- **If you happen to forget these special rules, you can always multiply binomials by using Distributive Property, a table or FOIL.**

U3L4 – Square of a Binomial



Square of a binomial

$$\begin{aligned}(a + b)^2 &= (a + b)(a + b) \\ &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2\end{aligned}$$

take note

Key Concept The Square of a Binomial

Words The square of a binomial is the square of the first term plus twice the product of the two terms plus the square of the last term.

Algebra

$$(a + b)^2 = a^2 + 2ab + b^2$$

$$(a - b)^2 = a^2 - 2ab + b^2$$

Examples

$$(x + 4)^2 = x^2 + 8x + 16$$

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

U3L4 – Squaring a binomial



What is a simpler form of each product?

$$\begin{aligned}(x + 8)^2 &= x^2 + 2(x)(8) + 8^2 \\ &= x^2 + 16x + 64\end{aligned}$$

$$\begin{aligned}(2m - 3)^2 &= (2m)^2 - 2(2m)(3) + (-3)^2 \\ &= 4m^2 - 12m + 9\end{aligned}$$

U3L4 – Squaring a binomial



What is a simpler form of each product?

$$(y + 5)^2$$

$$= y^2 + 2(y)(5) + 5^2$$

$$= y^2 + 10y + 25$$

$$(2n - 7)^2$$

$$= (2n)^2 - 2(2n)(7) + (-7)^2$$

$$= 4n^2 - 28n + 49$$

U3L4 – Product of Sum and Difference



The product of the sum and difference of the same two terms also produces a pattern.

$$\begin{aligned}(a + b)(a - b) &= a^2 - ab + ba - b^2 \\ &= a^2 - b^2\end{aligned}$$

take note

Key Concept The Product of a Sum and Difference

Words The product of the sum and difference of the same two terms is the difference of their squares.

Algebra

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

Examples

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

U3L4 – Product of Sum and Difference



What is a simpler form of each product?

$$(w + 4)(w - 4)$$

$$= w^2 - 4w + 4w - 16$$

$$= w^2 - 16$$

$$(3c - 4)(3c + 4)$$

$$= 9c^2 + 12 - 12c - 16$$

$$= 9c^2 - 16$$

U3L4 – Product of Sum and Difference



What is a simpler form of each product?

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

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

$$= x^6 - 64$$

$$(5 + 3m^2)(5 - 3m^2)$$

$$= (5)^2 - (3m^2)^2$$

$$= 25 - 9m^4$$

U3L4 - Review



take note

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$$(a - b)^2 = a^2 - 2ab + b^2$$

Examples

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take note

Key Concept The Product of a Sum and Difference

Words The product of the sum and difference of the same two terms is the difference of their squares.

Algebra

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

Examples

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

Questions?



- Check the Message Board first
- Send a WebMail
- You can also make an appointment at <https://elizondo.youcanbook.me>
- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.