MS Algebra Tiles Virtual Event

Welcome

Middle School Algebra Tile Virtual Session

As you join:

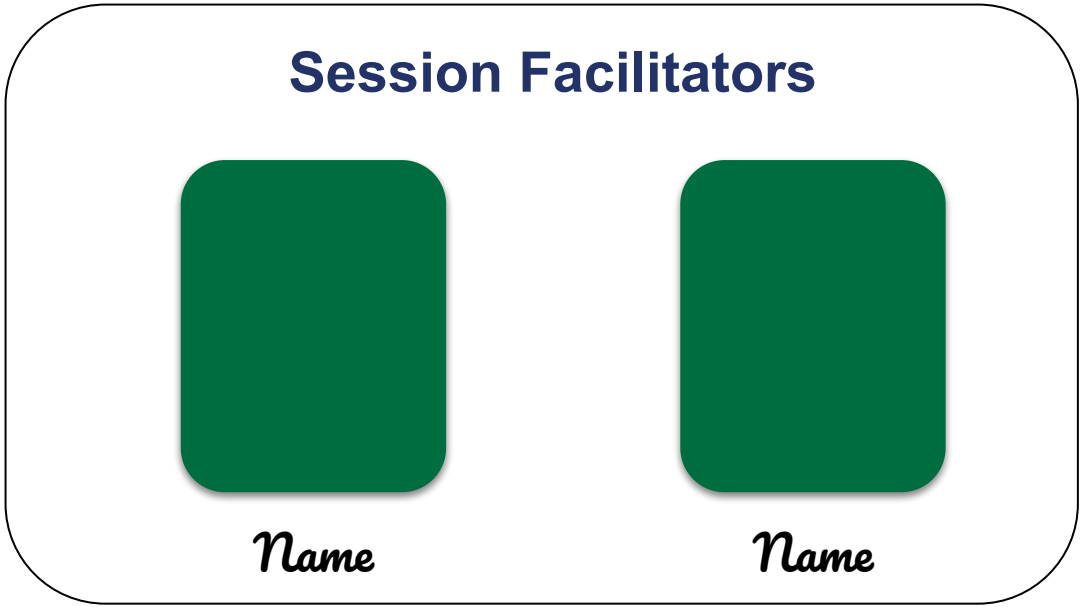
+ Feel free to test your microphone, then please mute yourself.
+ In the Public Chat, share your location, school, and which course you teach in the public chat.

CPM

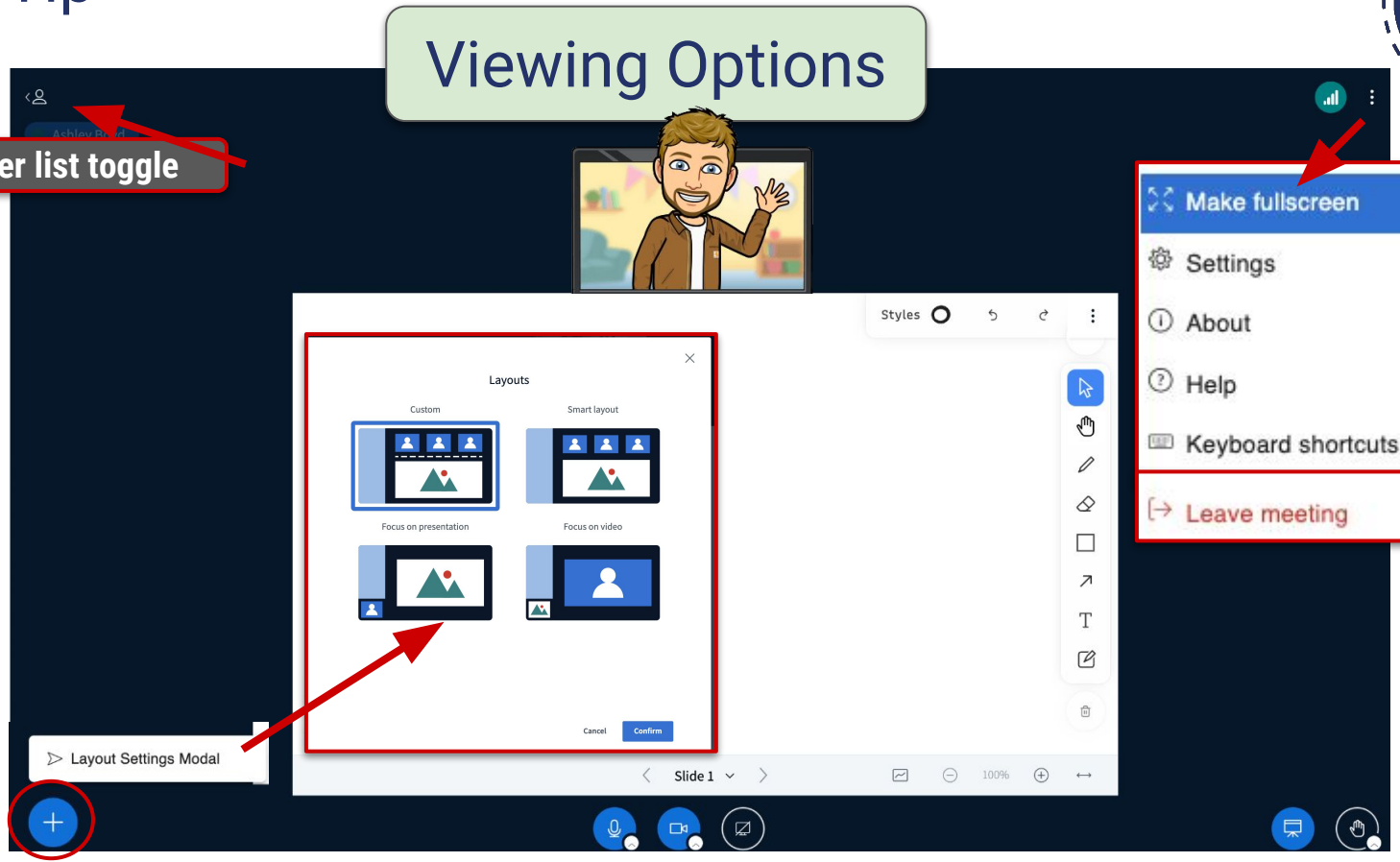
More Math For More People

Opening

Middle School Algebra Tile Virtual Learning Event



Tech Tip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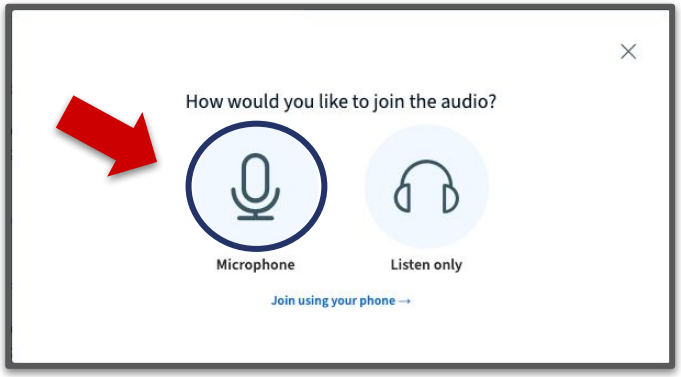
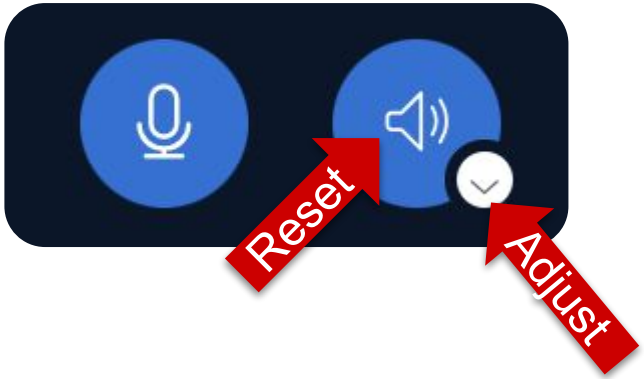
Tech Tip

Audio



Join with microphone

Troubleshooting

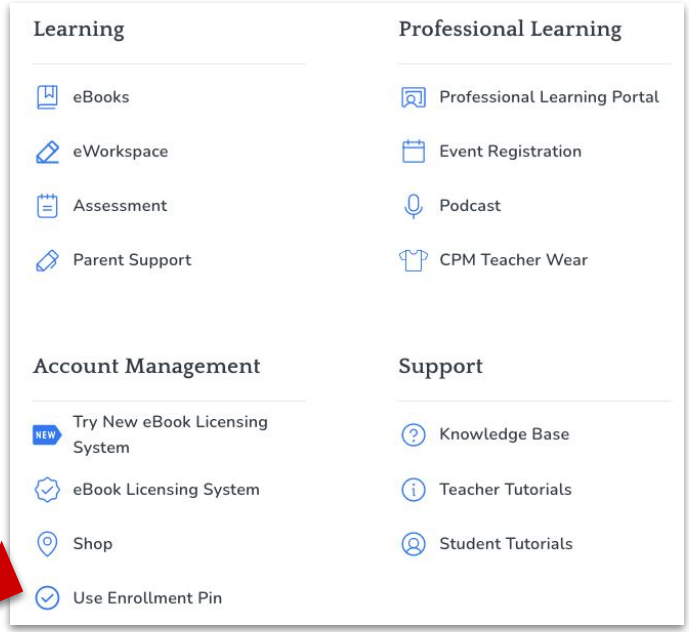


Use options below presentation to troubleshoot audio issues.

eBook

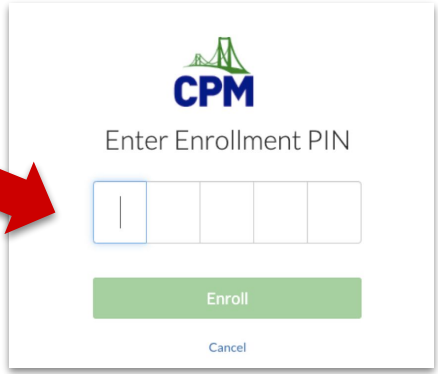
Enrollment steps

1st **my.cpm.org**



2nd

3rd



Steps to enroll in eBook:

1. Go to [my.cpm.org.](my.cpm.org)
2. Click “Use Enrollment Pin” under Account Management.
3. Enter the enrollment pin **(In public chat).**

Opening

Outcomes

Participants will:

Become familiar with algebra tiles.

Use algebra tiles to write variables, evaluate expressions, and solve equations.

Learn how to transition from concrete (manipulatives) to abstract (symbolic notation).

Opening

Agenda

- Opening
- Algebra Tiles - What are they?
- Combining Like Terms

- Expression, Comparison and Equation Mats
- Solving equations
- Closure

Opening

CPM's Equity Principles

The goal of teaching is to help all students transition from dependent to independent learners.

Relationships are of vital importance.

Student uniqueness is an asset, not a deficit.

Reflection is a crucial part of growth.

Welcome

Working Agreements

Be willing to take **risks.**

Have a **visionary** mindset.

Stay **engaged.**

Explore and reflect on our **beliefs.**

Give **grace** to others and ourselves.

Change takes time, effort, and support!

Algebra Tiles - What are they?

Teacher

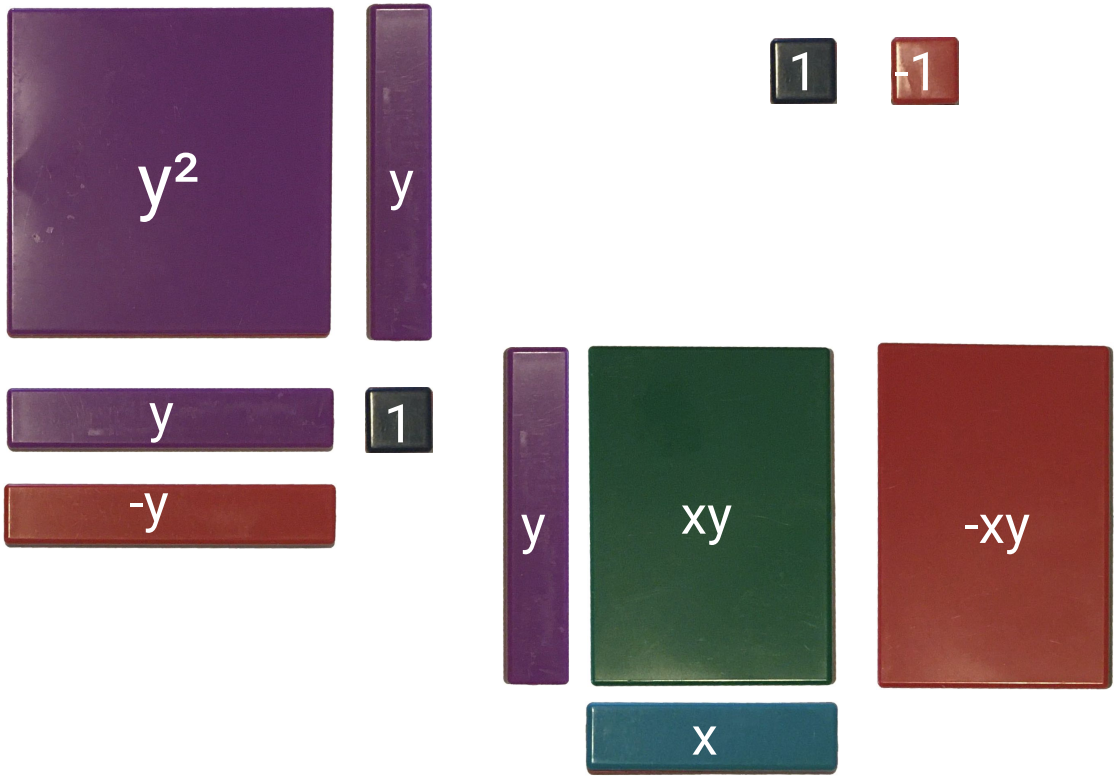
Icebreaker

What do you notice?

What do you wonder?

Algebra Tiles - What are They?

Naming of the Tiles

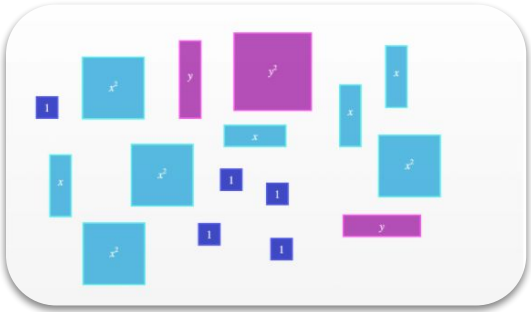


Algebraic Expressions

Explore: Combining Like Terms

Teacher

1. Please open Lesson 4.3.1 in **Core Connections 2.**
    a. Click on eBook tab
    b. Click on CC2
    c. Click on Chapter 4
    d. Click on Lesson 4.3.1



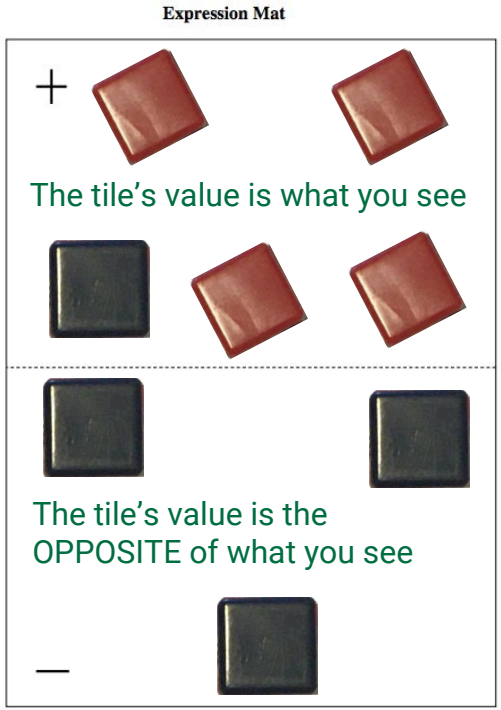
Expression Mats

Building with Opposite Space

Teacher

One expression mat, **two** regions

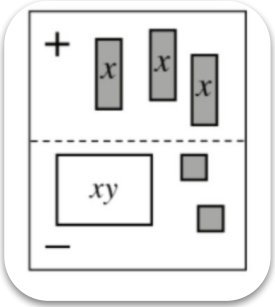
Value -3 can be shown many different ways



Expression Mats

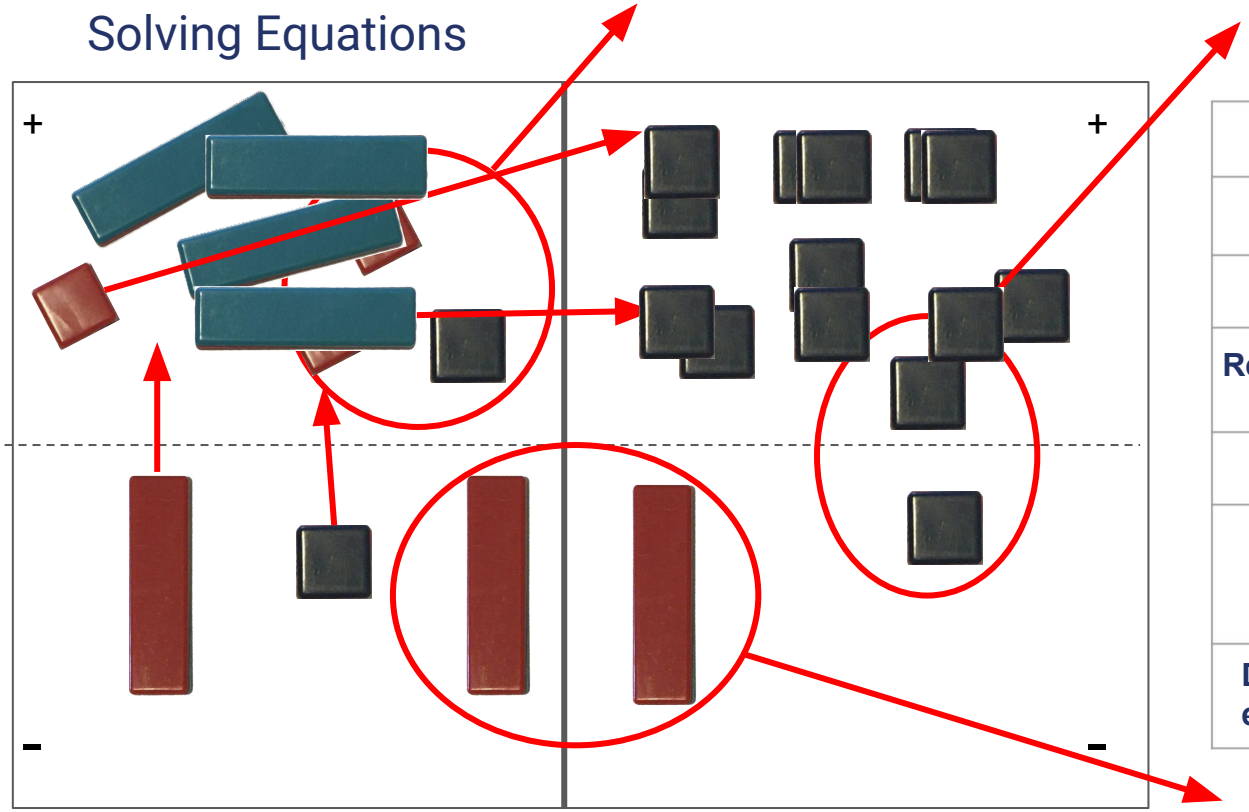
Practice

1. Please click on the link posted in the chat.
2. You will have 10 minutes to complete the task.
3. Remember: Work collaboratively with others in your team.



Equation Mats

Solving Equations



Teacher

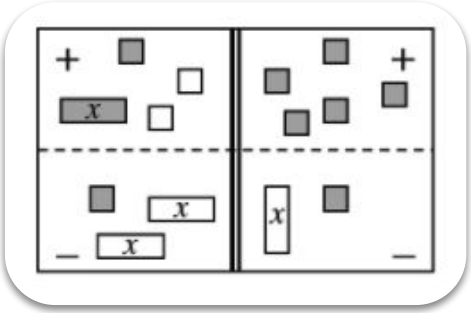
Move	Equation
	x - 2 + 1 - (-2x +1) = 5 - (-x +1)
Zero Pairs	x - 1 - (-2x +1) = 5 - (-x +1)
Remove equal amts	x - 1 - (-x + 1) = 4
Flip	2x - 2 = 4
Flip (add equal amts, remove zeros)	2x = 6
Divide into equal amts	**x = 3**

Equation Mats

Practice

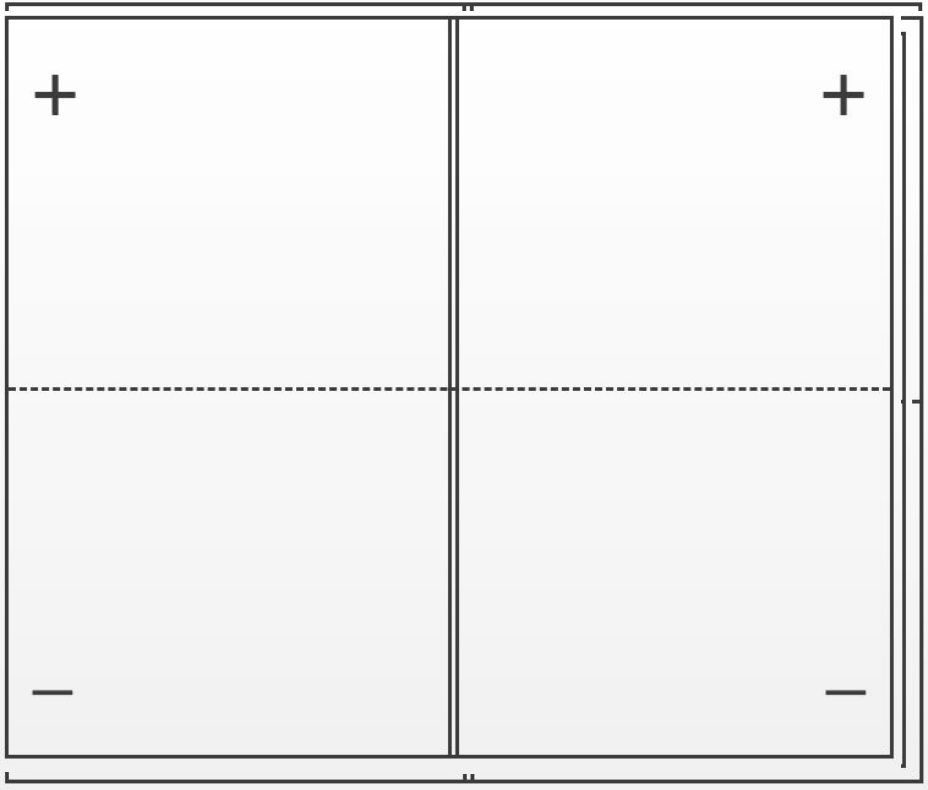
Teacher

1. Open the 1st link posted in the public chat.
2. Use the eTool to solve the equation.
3. Repeat with the 2nd and 3rd link posted in the chat.
4. You will have 13 minutes to work individually.



Equation Mats

Check: Third Problem

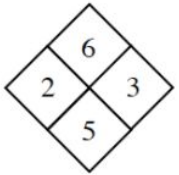


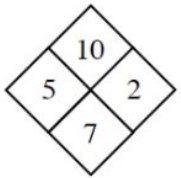
Move	Equation
	-x - 4 + 1 -(-1 + 4) = -x - 2 -(4)
Zero Pairs	-x - 3 - (3) = -x - 2 - (4)
Flip	-x - 6 = -x - 6
Rmv = amts	0 = 0
	Infinite number of solutions

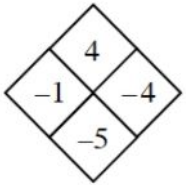
Multiplying and Factoring

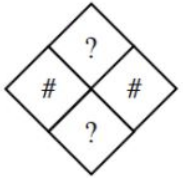
Diamond Problems

Look for a pattern in the first three diamonds below. How could you find the missing numbers (?) if you know the two numbers (#).

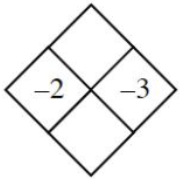


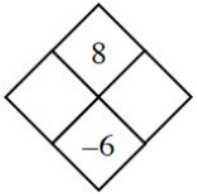






Use the pattern you discovered to complete each diamond problem below.

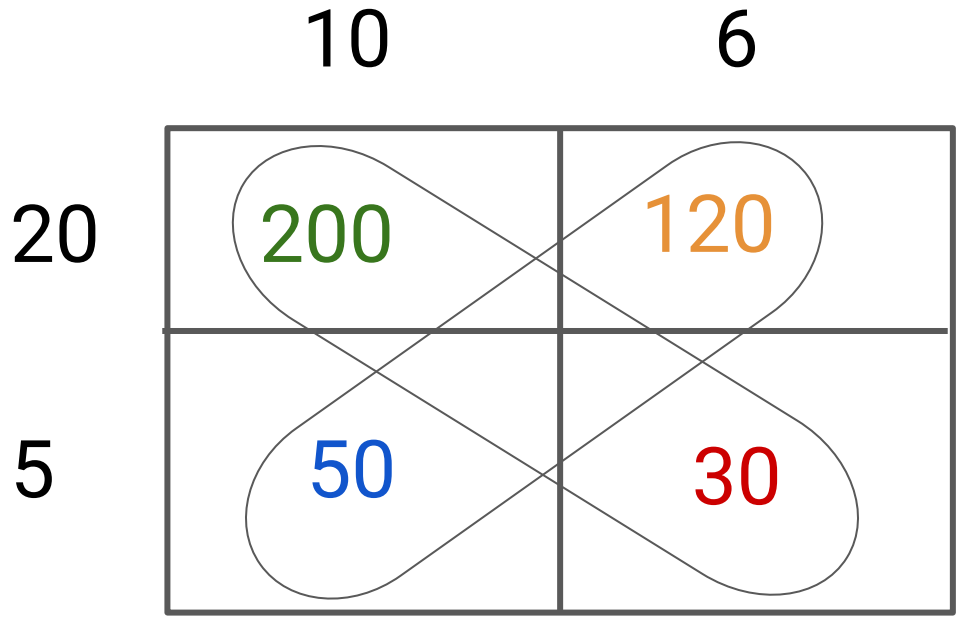




Multiplying and Factoring

Multiplying Using the Area Model

16 x 25

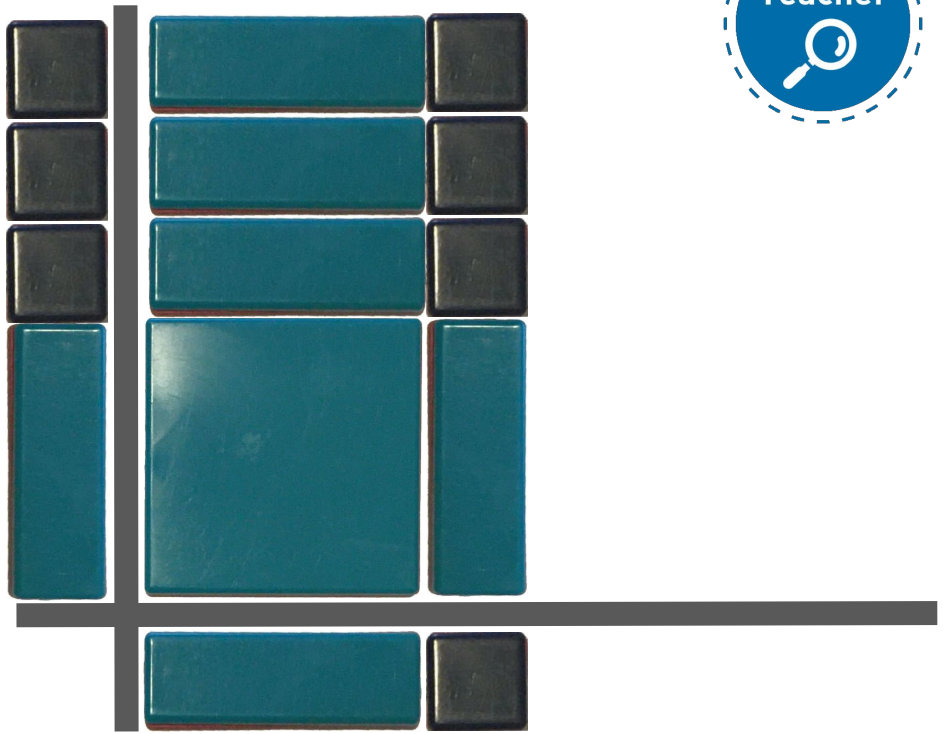


200
120
50
+30
400

Multiplying and Factoring

Multiplying Using the Area Model

Multiply (x + 1)(x + 3) using the tiles.



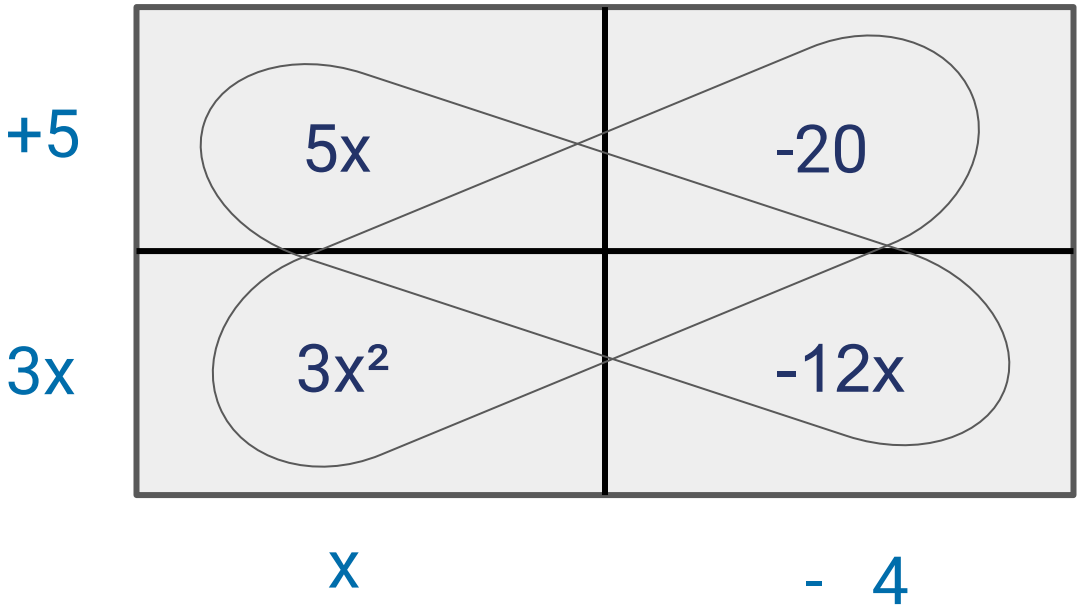
Write the solution as (a product) = (a sum)

$(x^2 + 4x + 3) = (x + 1)(x + 3)$

Multiplying and Factoring

Transitioning to Generic Rectangles

$(3x + 5)(x - 4) = 3x^2 - 7x - 20$

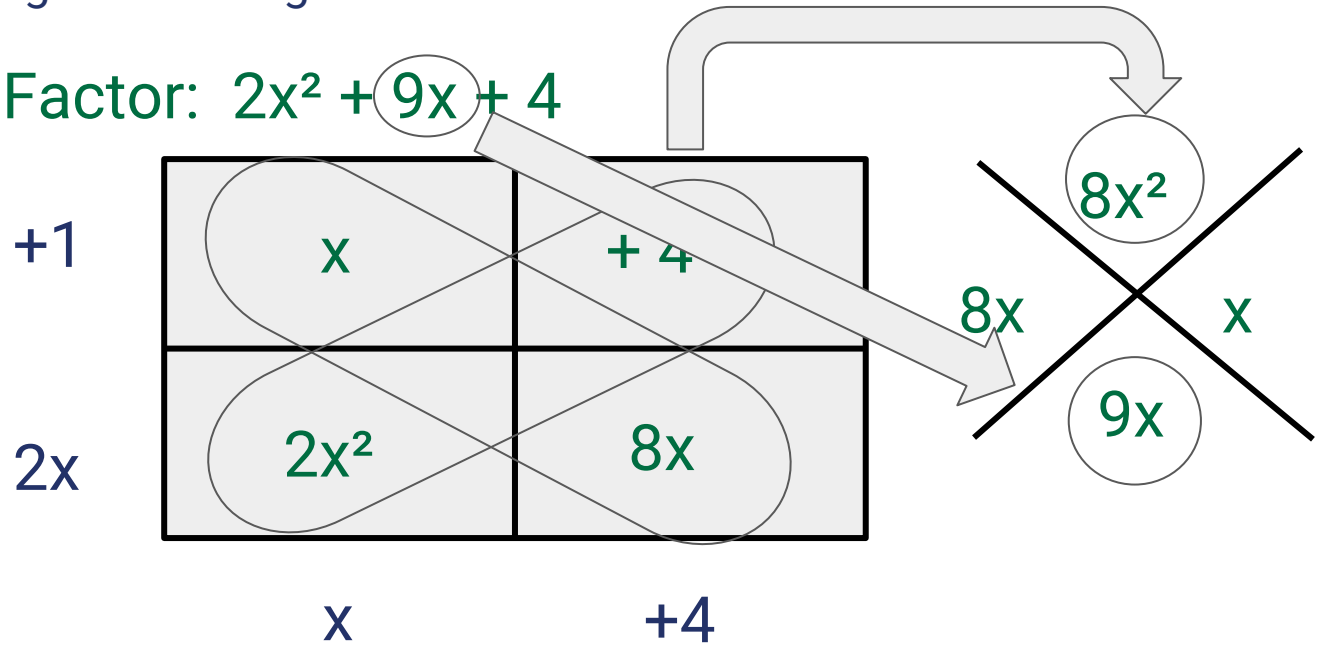


Multiplying and Factoring

Factoring Without Algebra Tiles

Teacher

Factor: $2x^2 + 9x + 4$



Answer: $2x^2 + 9x + 4 = (2x + 1)(x + 4)$

Closure

Outcomes

Participants will:

Become familiar with algebra tiles.

Use algebra tiles to write variables, evaluate expressions, and solve equations.

Learn how to transition from concrete (manipulatives) to abstract (symbolic notation).

Closure


Yarn Challenge
What is your Chocolate Personality?
A-B-C That's Me!
Shaded
Picture 1
Picture 2
Picture 3
Phil
Katie C
Ashley
Jas
Sam
Carlos
Patrick

Closure

- **Parking Lot**
- **Attendance**

  Either scan the QR code

  OR

  Enter passcode in the portal

  XXXXX

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Title Font Size: 24

Subtitle Font Size: 18

Color coding:

- **Teacher Lens**: 006DAB
- **Learning Log**: 006DAB
- **Student Lens**: 41AD49
- **Housekeeping**: 233368
- **Content Module**: 006D41
- **Thread**: 006D41

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Note: Drop zones of icons on layouts are not moveable.

HOUSEKEEPING

ANCHOR PAGE

WELCOME

PUZZLE

TEAM GOAL

TEACHER LENS

LEARNING LOG

THREAD

CONTENT MODULE

MATH GOAL

STUDENT LENS

EQUITY LENS

ASSESSMENT

PRODUCTIVE STRUGGLE

RESEARCH PILLARS

MSP

COLLABORATIVE LEARNING

PBL

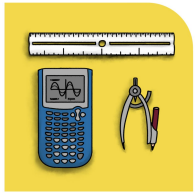
STUDY TEAMS

LEARNING TARGET

TASK CARD

TEAM ROLES ALL

RESOURCE MANAGER



TASK MANAGER

REPORTER RECORDER

FACILITATOR

IMPLEMENTATION ACTION PLAN

TEAM ROOMS

IMPLEMENTATION PROGRESS TOOL

STTS