# Today's Materials

- pencil
- notebook
- glue

# Combining Like Terms

(part 3)

## Lesson 22

| | |
|---|---|
| CCSS Standards: Building on | • 6.EE.A.4 |
| CCSS Standards: Addressing | • 7.EE.A.1 |
| CCSS Standards: Building towards | • 7.EE.A.1 |

Let’s see how we can combine terms in an expression to write it with less terms!

# Today's Goals

- When I look at an expression, I can notice if some parts have common factors and make the expression shorter by combining those parts.
- Given an expression, I can use various strategies to write an equivalent expression.

# Are They Equal?

## Warm Up

Select all expressions that are equal to $8 - 12 - (6 + 4)$.

a. $8 - 6 - 12 + 4$

b. $8 - 12 - 6 - 4$

c. $8 - 12 + (6 + 4)$

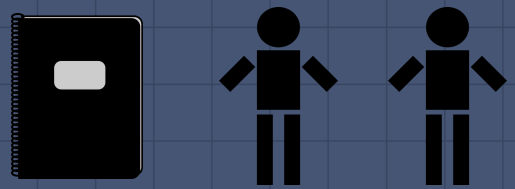
d. $8 - 12 - 6 + 4$

e. $8 - 4 - 12 - 6$

# X’s and Y’s

Activity 1

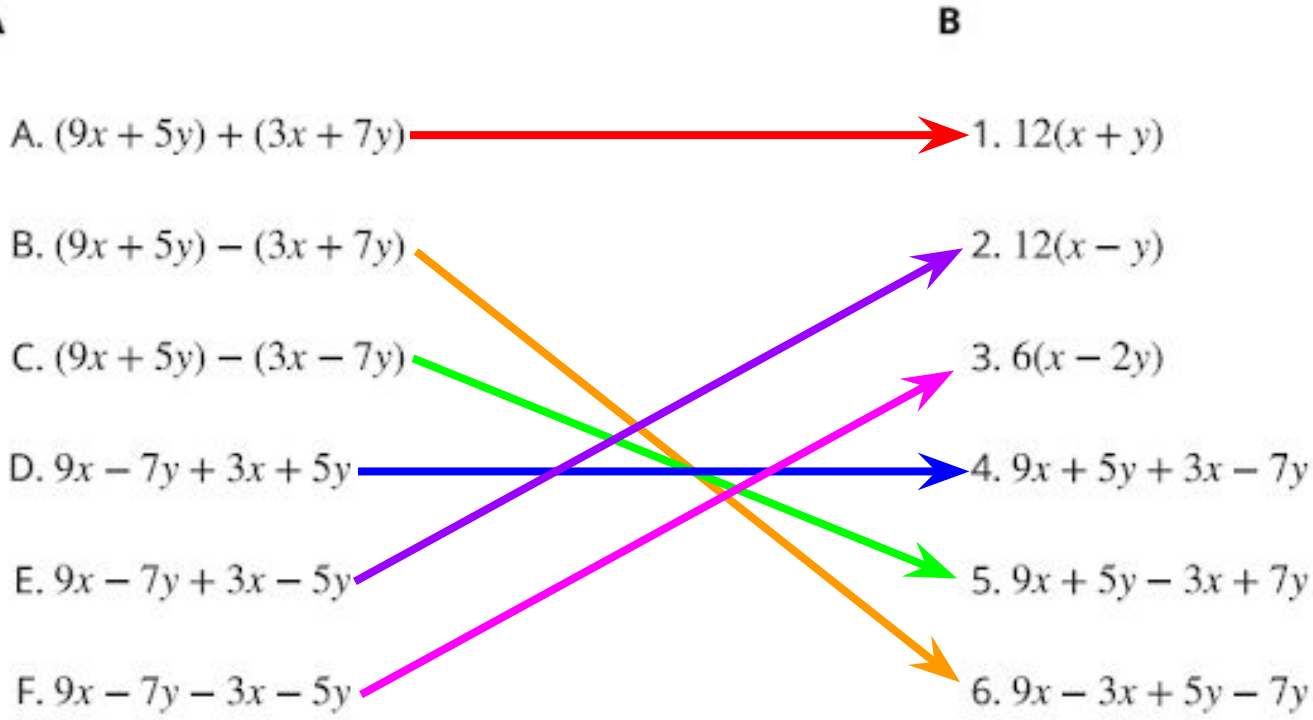
- Taking Turns



# For each expression in column A...

- one partner finds an equivalent expression in column B and explain why they are equivalent
- the other partner listens for if they agree or disagree
- If the partners don't agree, they should discuss until they come to an agreement.

Match each expression in column A with an equivalent expression from column B. Be prepared to explain your reasoning.



Which terms does the subtraction sign apply to in each expression? How do you know?

Were there any expressions from column A that you wrote with fewer terms but were unable to find a match for in column B?

If yes, why do you think this happened?

# What were some ways you handled subtraction with parentheses?

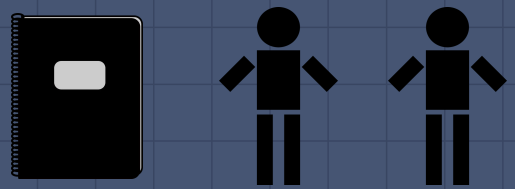
# What were some ways you handled subtraction without parentheses?

# Describe any difficulties you experienced and how you resolved them.

# Seeing Structure and Factoring

## Activity 2

- Think Pair Share



# Calculate the expression on the next slide as quickly as you can... ready?

# 18 – 45 + 27

What was your strategy in solving?

$$18 - 45 + 27$$

I noticed...

$$2 \cdot 9 - 5 \cdot 9 - 3 \cdot 9$$

$$= (2 - 5 + 3) \cdot 9$$

$$= (0) \cdot 9$$

Noticing **common factors** in expressions can help us write them with fewer terms or more simply.

Begin with Quiet Work Time. (5 min.)

# Share your expressions with your partner.

Write each expression with fewer terms.
Show or explain your reasoning.

a

$$3 \cdot 15 + 4 \cdot 15 - 5 \cdot 15$$

Write each expression with fewer terms.
Show or explain your reasoning.

b

$$3x + 4x - 5x$$

Write each expression with fewer terms.
Show or explain your reasoning.

C

$$3(x - 2) + 4(x - 2) - 5(x - 2)$$

Write each expression with fewer terms.
Show or explain your reasoning.

d

$$3\left(\frac{5}{2}x+6\frac{1}{2}\right)+4\left(\frac{5}{2}x+6\frac{1}{2}\right)-5\left(\frac{5}{2}x+6\frac{1}{2}\right)$$

# Today's Goals

- When I look at an expression, I can notice if some parts have common factors and make the expression shorter by combining those parts.
- Given an expression, I can use various strategies to write an equivalent expression.

# Let’s reflect on Unit 6…

- ❑ Describe something that you found confusing at first that you now understand well.
- ❑ Think of a story problem that you would not have been able to solve before this unit that you can solve now.
  - ❑ Put a star by a notebook example or write about it.
- ❑ What is a tool or strategy that you learned that was particularly useful?

- Describe a common mistake that people make when using the ideas we studied in this unit and how they can avoid that mistake.
- Which is your favorite, and why?
  - the distributive property
  - rewriting subtraction as adding the opposite
  - the commutative property

# R’s and T’s

Cool Down