Unit 4 Lesson 10: Combining Like Terms (Part 2)

1 True or False? (Warm up)

Student Task Statement

Select all the statements that are true. Be prepared to explain your reasoning.

1.
$$4 - 2(3 + 7) = 4 - 2 \cdot 3 - 2 \cdot 7$$

$$2.4 - 2(3 + 7) = 4 + -2 \cdot 3 + -2 \cdot 7$$

$$3.4 - 2(3 + 7) = 4 - 2 \cdot 3 + 2 \cdot 7$$

$$4.4 - 2(3 + 7) = 4 - (2 \cdot 3 + 2 \cdot 7)$$

2 Seeing it Differently

Student Task Statement

Some students are trying to write an expression with fewer terms that is equivalent to 8 - 3(4 - 9x).

Noah says, "I worked the problem from left to right and ended up with 20-45x."

Lin says, "I started inside the parentheses and ended up with 23x."

$$8 - 3(4 - 9x)$$

$$8 - 3(4 - 9x)$$

$$5(4 - 9x)$$

$$8 - 3(-5x)$$

$$20 - 45x$$

$$8 + 15x$$

23x

Jada says, "I used the distributive property and ended up with 27x - 4."

Andre says, "I also used the distributive property, but I ended up with -4 - 27x."

$$8 - 3(4 - 9x)$$

$$8 - 3(4 - 9x)$$

$$8 - (12 - 27x)$$

$$8 - 12 - 27x$$

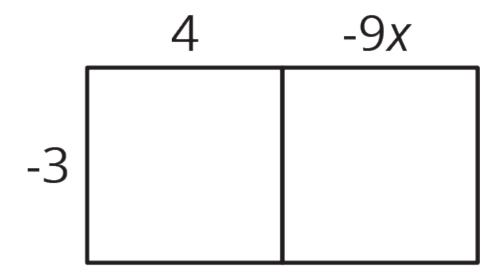
$$8 - 12 - (-27x)$$

$$-4 - 27x$$

$$27x - 4$$

- 1. Do you agree with any of them? Explain your reasoning.
- 2. For each strategy that you disagree with, find and describe the errors.

Activity Synthesis



3 Grouping Differently

Student Task Statement

Diego was taking a math quiz. There was a question on the quiz that had the expression 8x - 9 - 12x + 5. Diego's teacher told the class there was a typo and the expression was supposed to have one set of parentheses in it.

- 1. Where could you put parentheses in 8x 9 12x + 5 to make a new expression that is still equivalent to the original expression? How do you know that your new expression is equivalent?
- 2. Where could you put parentheses in 8x 9 12x + 5 to make a new expression that is not equivalent to the original expression? List as many different answers as you can.