

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 $20 - 45x$."

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

$$5(4 - 9x)$$

$$20 - 45x$$

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

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

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

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

$$27x - 4$$

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

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

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

$$8 + 15x$$

$$23x$$

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

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

$$8 - 12 - 27x$$

$$-4 - 27x$$

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

	4	-9x
-3		

	4	-9x
-3	$-3 \cdot 4$	$-3 \cdot -9x$

	4	-9x
-3	-12	27x

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.