# Unit 6 Lesson 21: 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. $4 - 2(3 + 7) = 4 + \text{-}2 \cdot 3 + \text{-}2 \cdot 7$
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 $20 - 45x$."

$8 - 3(4 - 9x)$

$5(4 - 9x)$

$20 - 45x$

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

$8 - 3(4 - 9x)$

$8 - 3(-5x)$

$8 + 15x$

$23x$

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

$8 - 3(4 - 9x)$

$8 - (12 - 27x)$

$8 - 12 - (-27x)$

$27x - 4$

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

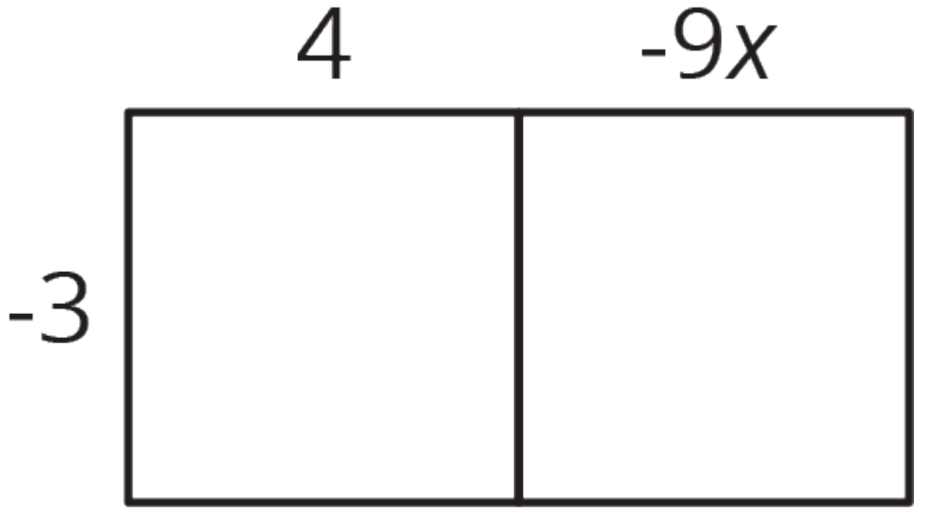
$8 - 3(4 - 9x)$

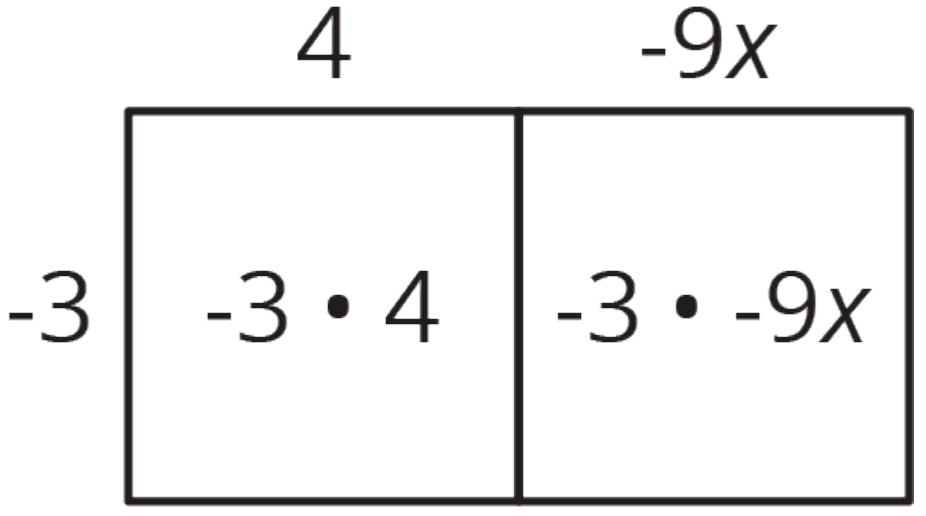
$8 - 12 - 27x$

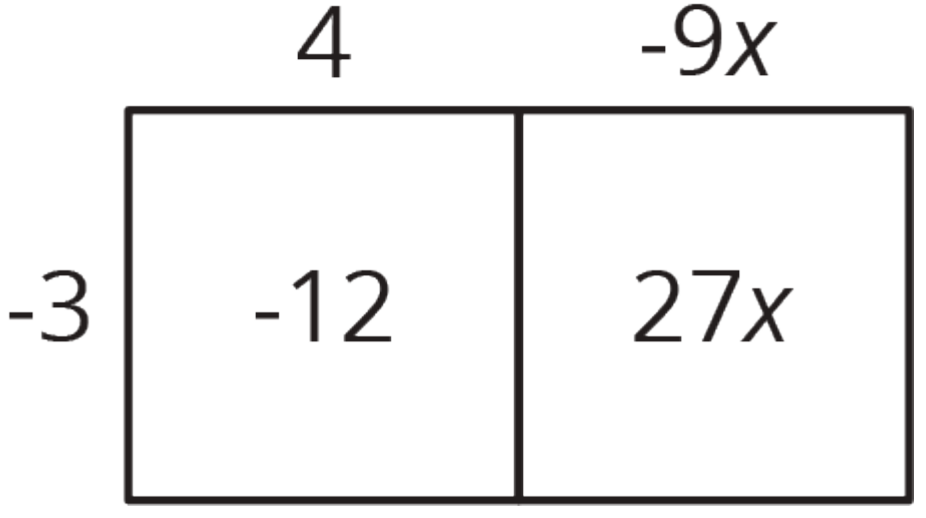
$-4 - 27x$

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 • 4
-3 • -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.