## 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. $4−2\left(3+7\right)=4−2⋅3−2⋅7$
2. $4−2\left(3+7\right)=4+-2⋅3+-2⋅7$
3. $4−2\left(3+7\right)=4−2⋅3+2⋅7$
4. $4−2\left(3+7\right)=4−\left(2⋅3+2⋅7\right)$

### 2 Seeing it Differently

#### Student Task Statement

Some students are trying to write an expression with fewer terms that is equivalent to $8−3\left(4−9x\right)$.

Noah says, “I worked the problem from left to right and ended up with $20−45x$.”

$8−3\left(4−9x\right)$

$5\left(4−9x\right)$

$20−45x$

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

$8−3\left(4−9x\right)$

$8−3\left(-5x\right)$

$8+15x$

$23x$

Jada says, “I used the distributive property and ended up with $27x−4$.”

$8−3\left(4−9x\right)$

$8−\left(12−27x\right)$

$8−12−\left(-27x\right)$

$27x−4$

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

$8−3\left(4−9x\right)$

$8−12−27x$

$-4−27x$

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



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