

NAME _____

DATE _____

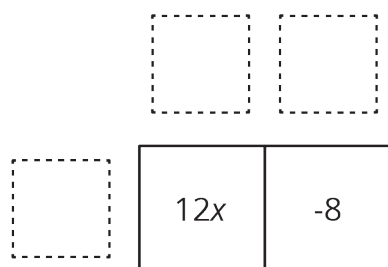
PERIOD _____

Lesson 19 Summary

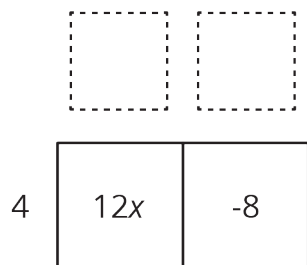
We can use properties of operations in different ways to rewrite expressions and create equivalent expressions. We have already seen that we can use the distributive property to expand an expression, for example $3(x + 5) = 3x + 15$. We can also use the distributive property in the other direction and factor an expression, for example $8x + 12 = 4(2x + 3)$.

We can organize the work of using distributive property to rewrite the expression $12x - 8$. In this case we know the product and need to find the factors.

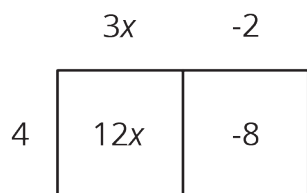
The terms of the product go inside:



We look at the expressions and think about a factor they have in common. $12x$ and -8 each have a factor of 4. We place the common factor on one side of the large rectangle:



Now we think: "4 times *what* is $12x$?" "4 times *what* is -8 ?" and write the other factors on the other side of the rectangle:



So, $12x - 8$ is equivalent to $4(3x - 2)$.