Name:	Date:
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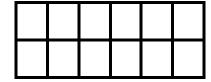
**NVACS: Operations and Algebraic Thinking** 

3.OA.A.5 Apply properties of operations as strategies to multiply and divide: commutative, associative, and distributive properties.

Practice for 3<sup>rd</sup> Grade

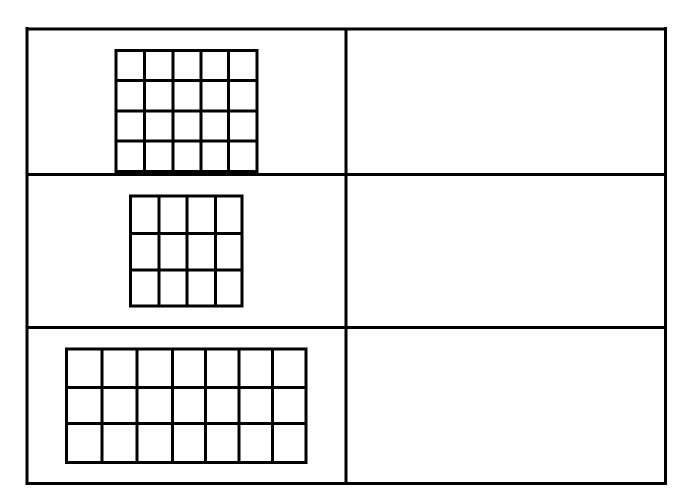
For each of the arrays below, write two ways that they can be described using the commutative property of multiplication.

For example:



$$2 \times 6 = 12$$
 or  $6 \times 2 = 12$ 

$$6 \times 2 = 12$$



Name:	Date:



**NVACS: Operations and Algebraic Thinking** 

3.OA.A.5 Apply properties of operations as strategies to multiply and divide: commutative, associative, and distributive properties.

Practice for 3<sup>rd</sup> Grade

Read each of the sentences below and fill in the missing number so the sentence is true.

Example: 8 x 4 = 4 x 8				
$7 \times 8 = _{} \times 7$	6 x 4 = x 6			
$3 \times 9 = _{} \times 3$	$_{} \times 5 = 5 \times 7$			
$\underline{\hspace{1cm}} \times 4 = 4 \times 2$	$11 \times 3 = \underline{\qquad} \times 11$			
$12 \times 9 = \underline{\hspace{1cm}} \times 12$	x 10 = 10 X 1			

Read each of the sentences below and determine if they are true or false.

	True	False
Example: $8 \times 4 = 4 \times 8$		
$9 \times 4 = 5 \times 10$		
$3 \times (5 \times 2) = (2 \times 5) \times 3$		
$6 \times (2 \times 2) = (2 \times 2) + 6$		

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