Name _____   Date _____
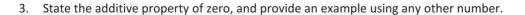
Replacing Numbers with Letters

1. State the commutative property of addition, and provide an example using two different numbers.

2. State the commutative property of multiplication, and provide an example using two different numbers.

3. State the additive property of zero, and provide an example using any other number.

4. State the multiplicative identity property of one, and provide an example using any other number.

1. State the commutative property of addition using the variables a and b.

2. State the commutative property of multiplication using the variables a and b.

3. State the additive property of zero using the variable b.

4. State the multiplicative identity property of one using the variable b.

5. Demonstrate the property listed in the first column by filling in the third column of the table.

Commutative Property of Addition	$25 + c =$	
Commutative Property of Multiplication	$l \times w =$	
Additive Property of Zero	$h + 0 =$	
Multiplicative Identity Property of One	$v \times 1 =$	

6. Why is there no commutative property for subtraction or division? Show examples.

1. State the commutative property of addition, and provide an example using two different numbers.

   Any two different addends can be chosen, such as $5 + 6 = 6 + 5$.

2. State the commutative property of multiplication, and provide an example using two different numbers.

   Any two different factors can be chosen, such as $4 \times 9 = 9 \times 4$.

3. State the additive property of zero, and provide an example using any other number.

   Any nonzero addend can be chosen, such as $3 + 0 = 3$.

4. State the multiplicative identity property of one, and provide an example using any other number.

   Any nonzero factor can be chosen, such as $12 \times 1 = 12$.

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1. State the commutative property of addition using the variables a and b.

   $a + b = b + a$

2. State the commutative property of multiplication using the variables a and b.

   $a \times b = b \times a$

3. State the additive property of zero using the variable b.

   $b + 0 = b$

4. State the multiplicative identity property of one using the variable b.

   $b \times 1 = b$

5. Demonstrate the property listed in the first column by filling in the third column of the table.

Commutative Property of Addition	$25 + c =$	$c + 25$
Commutative Property of Multiplication	$l \times w =$	$w \times l$
Additive Property of Zero	$h + 0 =$	h
Multiplicative Identity Property of One	$v \times 1 =$	v

6. Why is there no commutative property for subtraction or division? Show examples.

   Answers will vary. Examples should show reasoning and proof that the commutative property does not work for subtraction and division. An example would be $8 \div 2$ and $2 \div 8$. $8 \div 2 = 4$, but $2 \div 8 = \frac{1}{4}$.