***The properties of EQUALITY Name:***

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Property says any number is equal to itself!

More examples:

The \_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_\_\_\_\_\_\_Property says that if two things are equal then it doesn’t matter which side of the equal sign they are on.

More examples:

The \_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_\_\_\_\_\_\_Property says that if one quantity equals a second, and that second quantity equals a third, then the first one also equals the third!

More examples:

*The Substitution Property says that a quantity can be \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_ by its equal value in ANY expression.*

More examples:

*We use the above properties so much we often don’t even think about them!*

*THE* ***COMMUTATIVE*** *PROPERTY OF ADDITION*

*You can change the \_\_\_\_\_\_\_\_\_\_\_\_ of two terms in addition.*

*(Be careful with subtraction – if you always change subtraction it to adding a negative it will still work!)*

Example: Example:

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rewrite these using the commutative property of addition:

1. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*THE* ***COMMUTATIVE*** *PROPERTY OF MULTIPLICATION*

*You can change the \_\_\_\_\_\_\_\_\_\_\_\_ of two \_\_\_\_\_\_\_\_\_ in multiplication.*

*Absolutely DOES NOT work with division!*

Example: Example:

Example: *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Example:­*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Rewrite these using the commutative property of multiplication:

1. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Explain what property is being used, or why it does not work.

*THE* ***ASSOCIATIVE*** *PROPERTY OF ADDITION*

*You can ­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_­­\_\_ three or more terms in addition.*

*This does not work for \_­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Example: Example:

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NON-EXAMPLE:

Rewrite these using the associative property of addition. Hint: Copy them down in the same order and then put the parenthesis in a different place!

1. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*THE* ***ASSOCIATIVE*** *PROPERTY OF MULTIPLICATION*

*You can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ three or more factors in multiplication.*

*This does not work for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Example: Example:

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NON-EXAMPLE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rewrite these using the associative property of multiplication. Hint: Copy them down in the same order and then put the parenthesis in a different place!

1. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
3. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*THE* ***ADDITIVE IDENTITY***

An identity for a particular operation **doesn’t change** the identity of **the number** when the operation is done.

You can add \_\_\_\_\_\_\_ to any \_\_\_\_\_\_\_\_\_ and you will get the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

Example:

*THE* ***MULTIPLICATIVE IDENTITY***

An identity for a particular operation **doesn’t change** the identity of **the number** when the operation is done.

You can multiply any number by \_\_\_\_\_\_\_ and you will get the original \_\_\_\_\_\_\_\_.

Example:

*THE* ***ZERO*** *PROPERTY OF MULTIPLICATION*

When any number is multiplied with zero, the answer is \_\_\_\_\_\_\_\_\_.

Example:

*THE* ***ADDITIVE INVERSE***

The number you \_\_\_\_\_\_\_\_ to get to \_\_\_\_\_\_\_\_.

AKA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example:

*THE* ***MULTIPLICATIVE INVERSE***

The number you \_\_\_\_\_\_\_\_ to get to \_\_\_\_\_\_\_\_.

AKA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example:

*THE* ***DISTRIBUTIVE PROPERTY*** *– THIS BOTH ADDITION AND MULTIPLICATION!*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a sum by some number is the same as multiplying \_\_\_\_\_\_\_\_\_\_\_ by that same number.

Example: