Algebra I

Properties of Real Numbers

Commutative Property: to commute means to move around, the
  commutative property says we can change the order of terms.

Commutative Property of Addition:

$$a + b = b + a$$

Commutative Property of Multiplication:

$$a \cdot b = b \cdot a$$

Associative Property: associates are our friends; those with whom we hang
  around. The Associative Property says terms can "change friends."

Associative Property of Addition:

$$(a + b) + c = a + (b + c)$$

Associative Property of Multiplication:

$$(ab)c = a(bc)$$

Identity Property: identity is the state of remaining the same.

When addition is the operation, terms remain the same when 0 (the additive
  identity) is added:

$$a + 0 = a$$

When multiplication is the operation, terms remain the same when
  multiplied by 1 (the multiplicative identity):

$$a \cdot 1 = a$$

Inverse Property: that which gets one back to the identity

Inverse Property of Addition: adding the opposite to a number equals the
  additive identity of 0.
$$a + (-a) = 0$$