

Properties of Real Numbers

Commutative Property

	Algebra	Example
Addition	$a+b=b+a$	$18+54=54+18$
Multiplication	$a \cdot b = b \cdot a$	$12 \cdot \frac{1}{2} = \frac{1}{2} \cdot 12$

Associative Property

	Algebra	Example
Addition	$(a+b)+c=a+(b+c)$	$(23+9)+11=23+(9+11)$
Multiplication	$(a \cdot b) \cdot c = a \cdot (b \cdot c)$	$(17 \cdot 5) \cdot 2 = 17 \cdot (5 \cdot 2)$

Identity Property

	Algebra	Example
Addition	$a+0=a$	$7\frac{1}{3}+0=7\frac{1}{3}$
Multiplication	$a \cdot 1=a$	$23 \cdot 1=23$

Zero Property of Multiplication

Algebra	Example
$a \cdot 0 = 0$	$21 \cdot 0 = 0$

Multiplication Property of -1

Algebra	Example
$-1 \cdot a = -a$	$-1 \cdot 12 = -12$