

## Beginning Numbers \* Grouped Integers 1 A

Fundamental Operations: Addition, Subtraction, Multiplication, Division with Integers

Principle (Rule) of Signs:  $(+3) = + + +$   $(-4) = - - - -$   $(+5) = + + + + +$   $(-2) = - -$

Principle of Opposites:  $(+3)+(-3) = 0$   $(-4)+(+4) = 0$   $(+5)+(-2) = +3$   $(+3)+(-7) = -4$

### Addition ( Combining of Signs )

Same Signs => Combine Values then Common Sign!      Different Signs => Cancel Values then Sign of Result!

$$(+2) + (+9) = +11$$

$$(+3) + (-6) = -3$$

$$(-3) + (-7) = -10$$

$$(-2) + (+7) = +5$$

$$(+4) + (-8) = -4$$

$$(+5) + (+9) = +14$$

$$(-5) + (+6) = +1$$

$$(-4) + (-8) = -12$$

### Subtraction ( Add the Opposite! )

Change Subtraction to Addition **then** Change Sign of Second Number to Opposite Sign then Combine!

$$(+2) - (+9) = -7$$

$$(+3) - (-7) = +10$$

$$(-3) - (-8) = +5$$

$$(-2) - (+6) = -8$$

$$(+4) - (-6) = +10$$

$$(+5) - (+8) = -3$$

$$(-5) - (+7) = -12$$

$$(-4) - (-9) = +5$$

### Multiplication ( Same Signs ( + ) & Different Signs ( - ) )

Multiply then If Signs are the Same then Result is ( + )!

Multiply then If Signs are Different then Result is ( - )!

$$(+2) \times (+9) = +18$$

$$(+3) \times (-6) = -18$$

$$(-3) \times (-8) = +24$$

$$(-2) \times (+7) = -14$$

$$(+4) \times (-7) = -28$$

$$(+5) \times (+8) = +40$$

$$(-5) \times (+6) = -30$$

$$(-4) \times (-9) = +36$$

### Division ( Same Signs ( + ) & Different Signs ( - ) )

Divide then If Signs are the Same then Result is ( + )! Divide then If Signs are Different then Result is ( - )!

$$(+6) / (+2) = +3$$

$$(+28) / (-7) = -4$$

$$(-12) / (-3) = +4$$

$$(-12) / (+6) = -2$$

$$(+8) / (-4) = -2$$

$$(+27) / (+9) = +3$$

$$(-15) / (+5) = -3$$

$$(-16) / (-8) = +2$$

## Beginning Numbers \* Grouped Integers 1 B

Fundamental Operations: Addition, Subtraction, Multiplication, Division with Integers

Principle of Signs:  $(+4) = + + + +$   $(-3) = - - -$   $(+2) = + +$   $(+5) = - - - - -$

Principle of Opposites:  $(+3)+(-3) = 0$   $(-4)+(+4) = 0$   $(+5)+(-2) = +3$   $(+3)+(-7) = -4$

### Addition ( Combining of Signs! )

Same Signs => Combine Values then Common Sign!      Different Signs => Cancel Values then Sign of Result!

$$(+2) + (+6) = +8$$

$$(+3) + (-8) = -5$$

$$(-3) + (-7) = -10$$

$$(-2) + (+9) = +7$$

$$(+4) + (-9) = -5$$

$$(+5) + (+7) = +12$$

$$(-5) + (+8) = +3$$

$$(-4) + (-6) = -10$$

### Subtraction ( Add the Opposite! )

Change Subtraction to Addition then Change Sign of Second Number to Opposite Sign then Combine!

$$(+2) - (+7) = -5$$

$$(+3) - (-9) = +12$$

$$(-3) - (-6) = +3$$

$$(-2) - (+8) = -10$$

$$(+4) - (-8) = +12$$

$$(+5) - (+6) = -1$$

$$(-5) - (+9) = -14$$

$$(-4) - (-7) = +3$$

### Multiplication ( Same Signs ( + ) & Different Signs ( - ) )

Multiply then If Signs are the Same then Result is ( + )!

Multiply then If Signs are Different then Result is ( - )!

$$(+2) \times (+6) = +12$$

$$(+3) \times (-9) = -27$$

$$(-3) \times (-7) = +21$$

$$(-2) \times (+8) = -16$$

$$(+4) \times (-8) = -32$$

$$(+5) \times (+7) = +35$$

$$(-5) \times (+9) = -45$$

$$(-4) \times (-6) = +24$$

### Division ( Same Signs ( + ) & Different Signs ( - ) )

Divide then If Signs are the Same then Result is ( + )! Divide then If Signs are Different then Result is ( - )!

$$(+6) / (+3) = +2$$

$$(+21) / (-7) = -3$$

$$(-8) / (-2) = +4$$

$$(-18) / (+6) = -3$$

$$(+12) / (-4) = -3$$

$$(+36) / (+9) = +4$$

$$(-10) / (+5) = -2$$

$$(-24) / (-8) = +3$$

## Beginning Numbers \* Grouped Integers 1 C

Fundamental Operations: Addition, Subtraction, Multiplication, Division with Integers

Principle (Rule) of Signs:  $(+3) = + + +$   $(-4) = - - - -$   $(+5) = + + + + +$   $(-2) = - -$

Principle of Opposites:  $(+3)+(-3) = 0$   $(-4)+(+4) = 0$   $(+5)+(-2) = +3$   $(+3)+(-7) = -4$

### Addition ( Combining of Signs! )

Same Signs => Combine Values then Common Sign!

Different Signs => Cancel Values then Sign of Result!

$$(-2) + (-6) = -8$$

$$(-3) + (+9) = +6$$

$$(+3) + (+5) = +8$$

$$(+2) + (-6) = -4$$

$$(-4) + (+7) = +3$$

$$(-5) + (-8) = -13$$

$$(+5) + (-8) = -3$$

$$(+4) + (+7) = +11$$

### Subtraction ( Add the Opposite! )

Change Subtraction to Addition then Change Sign of Second Number to Opposite Sign then Combine!

$$(-2) - (-6) = +4$$

$$(-3) - (+8) = -11$$

$$(+3) - (+9) = -6$$

$$(+2) - (-9) = +11$$

$$(-4) - (+7) = -11$$

$$(-5) - (-6) = +1$$

$$(+5) - (-8) = +13$$

$$(+4) - (+7) = -3$$

### Multiplication ( Same Signs ( + ) & Different Signs ( - ) )

Multiply then If Signs are the Same then Result is ( + )!

Multiply then If Signs are Different then Result is ( - )!

$$(-4) \times (-8) = +32$$

$$(-4) \times (+6) = -24$$

$$(+2) \times (+9) = +18$$

$$(+2) \times (-7) = -21$$

$$(-5) \times (+6) = -30$$

$$(-5) \times (-9) = +45$$

$$(+3) \times (-7) = -21$$

$$(+2) \times (+8) = +16$$

### Division ( Same Signs ( + ) & Different Signs ( - ) )

Divide then If Signs are the Same then Result is ( + )! Divide then If Signs are Different then Result is ( - )!

$$(-18) \div (-2) = +9$$

$$(-24) \div (+6) = -4$$

$$(+15) \div (+3) = +5$$

$$(+12) \div (-3) = -4$$

$$(-12) \div (+4) = -3$$

$$(-24) \div (-8) = +3$$

$$(+20) \div (-5) = -4$$

$$(+18) \div (+9) = +2$$

## Beginning Numbers \* Grouped Integers 1 D

Fundamental Operations: Addition, Subtraction, Multiplication, Division with Integers

Principle (Rule) of Signs:  $(+3) = + + +$   $(-4) = - - - -$   $(+5) = + + + + +$   $(-2) = - -$

Principle of Opposites:  $(+3)+(-3) = 0$   $(-4)+(+4) = 0$   $(+5)+(-2) = +3$   $(+3)+(-7) = -4$

### Addition ( Combining of Signs! )

Same Signs => Combine Values then Common Sign!

Different Signs => Cancel Values then Sign of Result!

$$(-4) + (-5) = -9$$

$$(-4) + (+9) = +5$$

$$(+2) + (+6) = +8$$

$$(+2) + (-7) = -5$$

$$(-5) + (+8) = +3$$

$$(-5) + (-6) = -11$$

$$(+3) + (-7) = -4$$

$$(+4) + (+8) = +12$$

### Subtraction ( Add the Opposite! )

Change Subtraction to Addition then Change Sign of Second Number to Opposite Sign then Combine!

$$(-2) - (-9) = +7$$

$$(-3) - (+7) = -10$$

$$(+3) - (+7) = -4$$

$$(+2) - (-8) = +10$$

$$(-4) - (+6) = -10$$

$$(-5) - (-5) = 0$$

$$(+5) - (-5) = +10$$

$$(+4) - (+6) = -2$$

### Multiplication ( Same Signs ( + ) & Different Signs ( - ) )

Multiply then If Signs are the Same then Result is ( + )!

Multiply then If Signs are Different then Result is ( - )!

$$(-4) \times (-7) = +28$$

$$(-4) \times (+7) = -28$$

$$(+2) \times (+8) = +16$$

$$(+2) \times (-9) = -18$$

$$(-5) \times (+9) = -45$$

$$(-5) \times (-8) = +40$$

$$(+3) \times (-6) = -18$$

$$(+2) \times (+6) = +12$$

### Division ( Same Signs ( + ) & Different Signs ( - ) )

Divide then If Signs are the Same then Result is ( + )! Divide then If Signs are Different then Result is ( - )!

$$(-14) \div (-2) = +7$$

$$(-19) \div (+8) = -2$$

$$(+15) \div (+3) = +5$$

$$(+10) \div (-5) = -2$$

$$(-20) \div (+4) = -5$$

$$(-24) \div (-6) = +4$$

$$(+15) \div (-5) = -3$$

$$(+35) \div (+7) = +5$$