Beginning Integers

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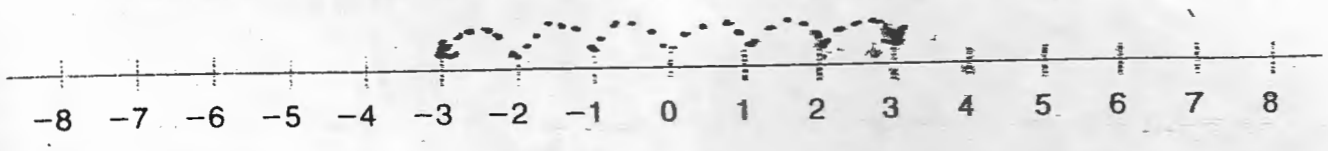
Integer- The set of whole numbers and their opposites
Ex: 1, 3, -5, 0, -40

Non-Ex: ½, 0.6, -3/4

Absolute Value: The absolute value of a number is the distance the number is from zero on the number line.



$|-3| = 3$ The absolute value of −3 is 3 because it is a distance of 3 from 0.

$|3| = 3$ The absolute value of 3 is 3 because it is a distance of 3 from 0.

*On a number line, OPPOSITES are the same distance from 0 but on different sides of 0. Zero is its own opposite.
Ex. −5 and 5, 29 and −29

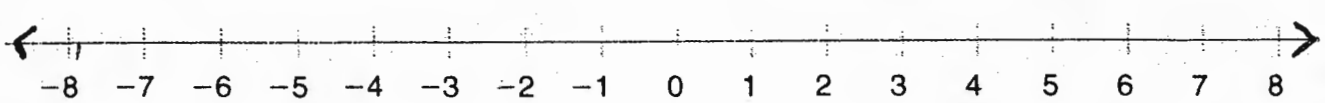
Positive # - greater than 0. May be written with a positive sign (+), but usually written without it.

Negative # - less than 0. Always written with a negative sign (-).

REMEMBER: Numbers on a number line INCREASE as you move to the RIGHT. Numbers DECREASE as you move to the LEFT.

$6 > 5$ $5 < 6$ $0 > -8$ $-2 < 0$ $-1 > -4$ $-6 < -2$
$2 > -8$ $-7 < 2$

Decrease ← → Increase



RULES FOR OPERATIONS WITH INTEGERS

Addition

Like signs - add the numbers and use the same sign $4 + 5 = 9$ $-3 + -2 = -5$

Unlike signs - subtract the numbers and use the sign of the number with the greatest absolute value.

$-9 + 4 = -5$ $10 + -5 = 5$

Subtraction

Change the operation to addition. Change the sign of the second integer. Follow the rules for addition. $9 - -4$ change to $9 + 4$

$-6 - 5$ change to $-6 + -5$

Multiplication and Division

Like signs (two positives or two negatives) use a positive sign. $-6 \times -4 = 24$ $6 \times 4 = 24$

$-25/-5 = 5$

Unlike signs (+, -) use a negative sign

$-5 \times 4 = -20$ $-20/4 = -5$