



Issues with Integers? Self-Help Guide!

Adding Integers





There are a number of methods used to teach operations with integers and eventually operations with all real numbers from movement on the number line to memorizing specific rules. A more visual approach has been presented here, using students' understanding that being "in the red" indicates an amount owed and being "in the black" indicates a positive amount available for use, the preferred bottom line in business. Based on these concepts, a black chip or circle will represent +1 and a red chip or circle will represent -1.

$$+1 = \text{black chip with } + \quad -1 = \text{red chip with } -$$

Manipulatives such as checkers can easily be used to mirror the processes presented. Using this visual approach, it is possible to determine the sum without memorizing rules.

<p>Example #1: $2 + 3$</p> 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> Positive + Positive </div>
<p>Example #2: $(-2) + (-3)$</p> 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> Negative + Negative </div>

Note that +1 and -1 are opposites or additive inverses. Adding +1 to -1 produces zero, so **a black chip and red chip cancel each other.**

<p>Example #3: $(-2) + 2$</p>  <p>Regroup using the Commutative Property</p>  <p style="text-align: center;"> $-1 + 1 = 0$ $-1 + 1 = 0$ </p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> Number + Opposite </div>
<p>Example #4: $(-2) + 3$</p>  <p>or regroup using the Commutative Property</p>  <p style="text-align: center;"> $-1 + 1 = 0$ $-1 + 1 = 0$ </p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> Negative + Positive </div>

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Adding Integers (continued)

Example #5: $2 + (-3)$

or regroup using the Commutative Property

$1 + (-1) = 0$ $1 + (-1) = 0$

Positive
+
Negative

Example #6: $(-5) + (-2)$

Negative
+
Negative

Example #7: $(-4) + 3$

or regroup using the Commutative Property

$-1 + 1 = 0$ $-1 + 1 = 0$ $-1 + 1 = 0$

Negative
+
Positive

Example #8: $4 + (-3)$

or regroup using the Commutative Property

$1 + (-1) = 0$ $1 + (-1) = 0$ $1 + (-1) = 0$

Positive
+
Negative

Begin to visualize these positive and negative numbers without producing the actual picture. Note that adding two positives always produces a positive number and adding two negatives always produces a negative number. However adding a positive and a negative (or a negative and a positive) can produce a positive, a negative or zero.