

Integers Reminder Sheet 1

Adding negative integers.

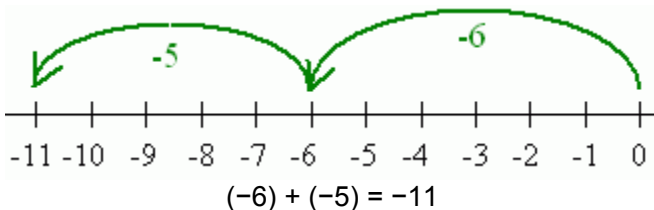


$$(-1) + (-3) = (-4)$$

$$(-6) + (-12) + (-3) + (-10) + (-5) = -36$$

debt debt debt debt debt = lots of debt

You jump on the number line towards the negative (left), more and more.



Just add the absolute values, and put the negative sign in front.

Subtracting a positive integer.

$$\begin{array}{ll} 2 - 1 = 1 & (-4) - 0 = -4 \\ 2 - 2 = 0 & (-4) - 1 = -5 \\ 2 - 3 = -1 & (-4) - 2 = -6 \\ 2 - 4 = -2 & (-4) - 3 = -7 \\ \text{etc.} & \text{etc.} \end{array}$$

It is like the temperature dropping, or money being subtracted from a bank account. Subtracting a positive integer just means more debt.

On a number line, subtracting 7 means jumping 7 steps towards the left.

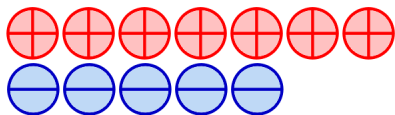
$5 - 8$ is also the same as $5 + (-8)$. In other words, you can change subtracting a number into addition of the opposite number.

Let's say the answer to $(-2) - 6$ is A and we don't know it yet. Since subtraction is the opposite operation of addition, $A + 6 = -2$.

$A = -8$ is the only number that works.

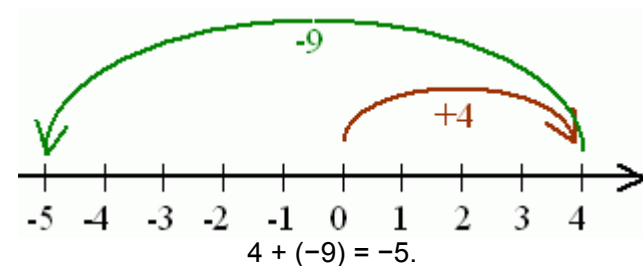
Adding integers with different signs.

$$7 + (-5) = \underline{\quad}$$



Some of the positives & negatives cancel each other. The difference of the absolute values tells you how many didn't get canceled.

Jump on a number line: a positive number is a jump to the right, a negative number means a jump to the left.



Subtracting a negative integer.

$$\begin{array}{ll} 2 - 2 = 0 & (-7) - 2 = (-9) \\ 2 - 1 = 1 & (-7) - 1 = (-8) \\ 2 - 0 = 2 & (-7) - 0 = (-7) \\ 2 - (-1) = 3 & (-7) - (-1) = (-6) \\ 2 - (-2) = 4 & (-7) - (-2) = (-5) \\ \text{etc.} & \text{etc.} \end{array}$$

When you subtract a negative integer, change it into adding the opposite of the negative number, which is of course positive:

$$\begin{array}{l} 8 - (-4) = 8 + 4 = 12. \\ (-10) - (-4) = (-10) + 4 = (-6) \end{array}$$

Two negatives changes into one positive!

On a number line, subtracting (-4) means jumping 4 steps to the left - but before you jump, the extra minus makes you turn around, so you jump to the right instead.

Let's say the answer to $2 - (-3)$ is B and we don't know it yet. Since subtraction is the opposite operation of addition, $B + (-3) = 2$.

$B = 5$ is the only number that works.

Similarly, if $(-7) - (-3)$ is C, then $C + (-3) = (-7)$. So C is (-4) .