

# Integers Reminder Sheet 1

## Adding negative integers.

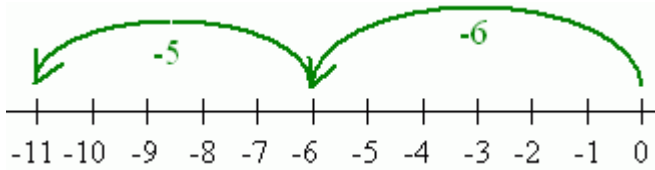


$$(-1) + (-3) = (-4)$$

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

debt debt debt debt debt = lots of debt

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



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

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

## Subtracting a positive integer.

$$2 - 1 = 1$$

$$2 - 2 = 0$$

$$2 - 3 = -1$$

$$2 - 4 = -2$$

etc.

$$(-4) - 0 = -4$$

$$(-4) - 1 = -5$$

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

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

etc.

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

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

$5 - 8$  is also 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.

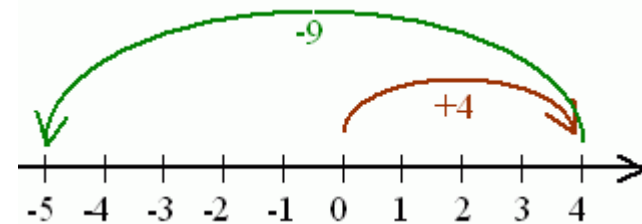
## Adding integers with different signs.

$$7 + (-5) = \square$$



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

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



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

## Subtracting a negative integer.

$$2 - 2 = 0$$

$$2 - 1 = 1$$

$$2 - 0 = 2$$

$$2 - (-1) = 3$$

$$2 - (-2) = 4$$

etc.

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

$$(-7) - 1 = (-8)$$

$$(-7) - 0 = (-7)$$

$$(-7) - (-1) = (-6)$$

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

etc.

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

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

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

Two negatives changes into one positive!

On 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  $(-4)$ .