**Positive and Negative Integer CHEAT SHEET**

**Whole numbers, figures that do not have fractions or decimals, are also called integers. They can have one of two values: positive or negative.**

* Positive integers have values greater than zero.
* Negative integers have values less than zero.
* Zero is neither positive nor negative.

**The rules of how to work with positive and negative numbers are important because you'll encounter them in daily life, such as in balancing a bank account, calculating weight, or preparing recipes.**

**Tips for Success**

Like any subject, succeeding in mathematics takes practice and patience. Some people find numbers easier to work with than others do. Here are a few tips for working with positive and negative integers:

-Context can help you make sense of unfamiliar concepts. Try and think of a practical application like keeping score when you're practicing.

-Using a number line showing both sides of zero is very helpful to help develop the understanding of working with positive and negative numbers/integers.

-It's easier to keep track of the negative numbers if you enclose them in brackets.

**Addition**

Whether you're adding positives or negatives, this is the simplest calculation you can do with integers. In both cases, you're simply calculating the sum of the numbers. For example, if you're adding two positive integers, it looks like this:

**5 + 4 = 9**

If you're calculating the sum of two negative integers, it looks like this:

**(–7) + (–2) = -9**

To get the sum of a negative and a positive number, use the sign of the larger number and subtract. For example:

**(–7) + 4 = –3**

**6 + (–9) = –3**

**(–3) + 7 = 4**

**5 + (–3) = 2**

The sign will be that of the larger number. Remember that adding a negative number is the same as subtracting a positive one.

**Subtraction**

The rules for subtraction are similar to those for addition. If you've got two positive integers, you subtract the smaller number from the larger one. The result will always be a positive integer:

**5 – 3 = 2**

Likewise, if you were to subtract a positive integer from a negative one, the calculation becomes a matter of addition (with the addition of a negative value):

**(–5) – 3 = –5 + (–3) = –8**

If you're subtracting negatives from positives, the two negatives cancel out and it becomes addition:

**5 – (–3) = 5 + 3 = 8**

If you're subtracting a negative from another negative integer, use the sign of the larger number and subtract:

**(–5) – (–3) = (–5) + 3 = –2**

**(–3) – (–5) = (–3) + 5 = 2**

If you get confused, it often helps to write a positive number in an equation first and then the negative number. This can make it easier to see whether a sign change occurs.

**Multiplication**

Multiplying integers is fairly simple if you remember the following rule: If both integers are either positive or negative, the total will always be a positive number. For example:

**3 x 2 = 6**

**(–2) x (–8) = 16**

**However,** if you are multiplying a positive integer and a negative one, the result will always be a negative number:

**(–3) x 4 = –12**

**3 x (–4) = –12**

If you're multiplying a larger series of positive and negative numbers, you can add up how many are positive and how many are negative. The final sign will be the one in excess.

**Division**

As with multiplication, the rules for dividing integers follow the same positive/negative guide. Dividing two negatives or two positives yields a positive number:

**12 / 3 = 4**

**(–12) / (–3) = 4**

Dividing one negative integer and one positive integer results in a negative number:

**(–12) / 3 = –4**

**12 / (–3) = –4**

