**Divisibility Rules to help with finding factors of numbers**

Using rules of divisibility can be very helpful when finding factors of numbers and determining if a number is prime or composite. Memorize these math shortcuts to help improve your factoring skills.

* **A number will have 2** **as a factor** if it is even.
* **A number will have 3 as a factor** if the sum of the digits are divisible by 3.

**E.g. 66 if you add the digits together 6+6=12, you will find that 12 is divisible by 3 so in turn 66 will be divisible by 3 and will be a factor.**

* **A number will have 4 as a factor** if the last two digits are divisible by 4.

**E.g. 224 if you look just at the last two digits you find that 24 is divisible by 4 therefore 224 will have 4 as a factor.**

* **A number will have 5 as a factor** if it ends in a 0 or a 5.
* **A number will have 6 as a factor** if both 2 and 3 are factors of this number.

**E.g. 78 we can say that 2 x 39 and 3 x 26 are factor pairs and since 2 and 3 are factors, 6 will also be a factor.**

* **A number will have 7 as a factor** if you can take the last digit, double it, then subtract the doubled amount from the rest of the remaining number. If the difference is divisible by 7, then 7 will be a factor.

**E.g. 322 – Take the last digit 2, double it, so you have 4. Then subtract 4 from the rest of the number 32. You will get 28 which is divisible by 7, so the number 322 is divisible by 7 or 7 will be a factor of 322.**

* **A number will have 8 as a factor** if…….. (you will need to just divide this one out using long division)
* **A number will have 9 as a factor** if the sum of the digits are divisible by 9 (same rule as for 3)
* **A number will have 10 as a factor** if the last digit ends in a 0