Math Tips: Types of Numbers, Skip Counting, and Factoring

Key Terms:

Whole Numbers: The "counting numbers" – one, two, three, four, etc.
Even Numbers: Whole numbers that are divisible by 2, without a remainder.
Odd numbers: Whole numbers that are not divisible by 2.
Skip Counting: Counting by any whole number other than 1 – for example, counting by five's.
Prime Numbers: Numbers that be divided only by themselves and the number 1. For example, the number 7 is a prime number because it cannot be divided by any whole numbers besides 7 and 1.
Factors: Whole numbers that have been multiplied together to create a new number, the **product**.

Facts About Factoring

To "**factor a number**" means to find all the whole numbers that can be multiplied together to create the original number. For example, for the number 6, we know that:

1 x 6 = 6
and
2 x 3 = 6

There are no other whole numbers you can multiply together to get 6. Therefore, we say that 1, 2, 3, and 6 are **factors of 6**.

A **perfect square** is the number we get when we multiply any whole number by itself. The **square root** is the number being multiplied by itself. For example, **5 x 5 = 25.** In this case, **25** is a **perfect square** and **5** is the **square root of 25**.

Cool Fact: All non-prime numbers (**composite** numbers) have an **even** number of unique factors, because each one has to pair up with another to multiply. But **perfect squares** have an **odd** number of unique factors, because the square root pairs with itself – and we don't count it twice! For example, the factors of 49 are 1, 7 and 49 – just 3 of them in total.

Prime Factors are all the factors of a given number that happen to be **prime numbers**.

You can break down a number into all of its **prime factors**, some of which will repeat. For instance, 24 = 8 x 3, but 8 = 2 x 4…and 4 = 2 x 2. So 24 = 2 x 2 x 2 x 3.