Name: _____ **Prime Numbers**

A **prime** number is any counting number *greater than one* (>1) that has no factors other than itself and 1. (In other words, a prime number has *exactly* two factors.)

A number that has at least one other factor besides itself and 1 is called a **composite** number. ***The number 1 is neither prime nor composite***.

For example, 2 is prime because its only factors are 2 and 1.

3 is also prime because its only factors are 3 and 1.

The number 4 is composite because it has the factor 2 in addition to the factors 1 and 4.

1. Circle all the prime numbers in this list of numbers:

   1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

   What is the first prime number greater than 12? _____

   What is the next prime number after that? _____

2. How many *factor pairs* does a prime number have? _____

3. An ***even*** number is a counting number that can be divided *evenly* into 2 *equal* groups with no remainder. **Even** numbers end in **0, 2, 4, 6,** or **8**. Numbers that end in 1, 3, 5, 7, or 9 are called ***odd*** numbers.

   Are there any *even* prime numbers other than 2? _____ Explain your thinking!

4. 3 is a prime number. If you count by threes, staring at 3, how long before you reach another number that is a prime? Explain!