There are lots of odd and unexplained facts about prime numbers. Christian Goldbach (1690 – 1764) was a German mathematician and historian who made some interesting discoveries. He suggested in a letter to a friend that every even integer greater than 2 could be written as the sum of two prime numbers, like this for example:

12 = 5 + 7

20 = 7 + 13

Unfortunately, while mathematicians believe it to be true, no-one has ever been able to prove it. Therefore this remains a 'Goldbach Conjecture' rather than a 'Goldbach Theorem'. Mr. Goldbach seemed to make something of a habit of this. He also suggested that every integer greater than 6 could be written as the sum of three prime numbers, like this for example:

12 = 2 + 3 + 7

21 = 3 + 7 + 11

While this has never been proved either, the slightly unpronounceable 'Vinogradov's Theorem' does manage to show that it is true for every odd number greater than 6.

* Find pairs of prime numbers that sum to each of the even integers between 30 and 50.
* Find sets of three prime numbers that sum to each of the integers between 80 and 90.