Name: _____

The Goldbach Conjecture.

Some background.

I present to you the first twenty **prime numbers**

$$2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, \ldots$$

The Conjecture.

Every even integer greater than two can be written as the sum of two primes.

Experimental evidence.

$$4 = 2 + 2, \quad 6 = 3 + 3, \quad 8 = 3 + 5, \quad 10 = 3 + 7, \quad 12 = 5 + 7.$$

Can you keep going?

$14 = \_\_\_\_ + \_\_\_\_$ $16 = \_\_\_\_ + \_\_\_\_$

$18 = \_\_\_\_ + \_\_\_\_$ $20 = \_\_\_\_ + \_\_\_\_$

$22 = \_\_\_\_ + \_\_\_\_$ $24 = \_\_\_\_ + \_\_\_\_$

$26 = \_\_\_\_ + \_\_\_\_$ $28 = \_\_\_\_ + \_\_\_\_$

$30 = \_\_\_\_ + \_\_\_\_$ $32 = \_\_\_\_ + \_\_\_\_$

$34 = \_\_\_\_ + \_\_\_\_$ $36 = \_\_\_\_ + \_\_\_\_$

$38 = \_\_\_\_ + \_\_\_\_$ $40 = \_\_\_\_ + \_\_\_\_$

$42 = \_\_\_\_ + \_\_\_\_$ $44 = \_\_\_\_ + \_\_\_\_$