MathFLIX CHALLENGE

Three Prime Number Tricks

A **prime** number has **only 2 factors** - the number itself and the number 1. No other whole numbers can be multiplied to get a prime number. For example, the only 2 factors that can be multiplied to get the number 5 are 1 and 5 (1x5=5). A **composite** number has **more than 2 factors** because other whole numbers can be multiplied to get that number. For example, (2x2 = 4) and (1x4 = 4) so the 3 factors of 4 are: 1,2,4

Listed here are the first 15 prime numbers that may come in handy as you learn the tricks below!

2 3 5 7 11 13 17 19 23 29 31 37 41 43 47

TRICK #1 (also known as Bertrand's Postulate)

1. Choose any number.
2. Double that number.
3. There will be at least 1 prime number between the two numbers

	Double	Prime # between
5 * 2 =	10	7
6 * 2 =	12	7, 11
7 * 2 =	14	11, 13
8 * 2 =		
9 * 2 =		
10 * 2 =		
20 * 2 =		

TRICK #2 (also known as Goldbach's Theorem)

Every even number greater than 4 can be expressed as the sum of 2 primes.

6 = 3 + 3
8 = 5 + 3
10 = 5 + 5
12 = 7 + 5
14 = 7 + 7
16 = 13 + 3

18 = __ + __
20 =
22 =
24 =
26 =
30 =

TRICK #3

Any number greater than 5 can be expressed as the sum of 3 prime numbers.

6 = 2 + 2 + 2
7 = 2 + 2 + 3
8 = 3 + 3 + 2
8 = 2 + 3 + 3
9 = 3 + __ + __

20 =
30 =
40 =
50 =
60 =