

34.043.b Goldbach's Second Conjecture

Name _____

Goldbach's Second Conjecture: The mathematician Goldbach *also* thought that every whole number greater than 5 could be written as the sum of *three* prime numbers. For example, $6 = 2 + 2 + 2$, while $11 = 2 + 2 + 7 = 3 + 3 + 5$, and $12 = 2 + 3 + 7 = 2 + 5 + 5$. For each whole number from 7 through 99, find out if Goldbach was right! See if you can find a *triplet* of prime numbers that add up to each even whole number below. Several are done for you. Some numbers, like 12, have more than one way to do it. **No Answer Key will be provided for this worksheet** - you're on your own! Again, the first 25 primes are listed here, in their groups:

2, 3, 5, 7 • 11, 13, 17, 19 • 23, 29 • 31, 37 • 41, 43, 47 • 53, 59 • 61, 67 • 71, 73, 79 • 83, 89 • 97

7 = ___ + ___ + ___	38 = ___ + ___ + ___	69 = ___ + ___ + ___
8 = ___ + ___ + ___	39 = ___ + ___ + ___	70 = ___ + ___ + ___
9 = ___ + ___ + ___	40 = ___ + ___ + ___	71 = ___ + ___ + ___
10 = ___ + ___ + ___	41 = ___ + ___ + ___	72 = ___ + ___ + ___
11 = <u>3</u> + <u>3</u> + <u>5</u>	42 = ___ + ___ + ___	73 = ___ + ___ + ___
12 = <u>2</u> + <u>3</u> + <u>7</u> = <u>2</u> + <u>5</u> + <u>5</u>	43 = ___ + ___ + ___	74 = ___ + ___ + ___
13 = ___ + ___ + ___	44 = ___ + ___ + ___	75 = ___ + ___ + ___
14 = ___ + ___ + ___	45 = ___ + ___ + ___	76 = ___ + ___ + ___
15 = ___ + ___ + ___	46 = ___ + ___ + ___	77 = ___ + ___ + ___
16 = ___ + ___ + ___	47 = ___ + ___ + ___	78 = ___ + ___ + ___
17 = ___ + ___ + ___	48 = ___ + ___ + ___	79 = ___ + ___ + ___
18 = ___ + ___ + ___	49 = ___ + ___ + ___	80 = ___ + ___ + ___
19 = ___ + ___ + ___	50 = ___ + ___ + ___	81 = ___ + ___ + ___
20 = ___ + ___ + ___	51 = ___ + ___ + ___	82 = ___ + ___ + ___
21 = ___ + ___ + ___	52 = ___ + ___ + ___	83 = ___ + ___ + ___
22 = ___ + ___ + ___	53 = ___ + ___ + ___	84 = ___ + ___ + ___
23 = ___ + ___ + ___	54 = ___ + ___ + ___	85 = ___ + ___ + ___
24 = ___ + ___ + ___	55 = ___ + ___ + ___	86 = ___ + ___ + ___
25 = ___ + ___ + ___	56 = ___ + ___ + ___	87 = ___ + ___ + ___
26 = ___ + ___ + ___	57 = ___ + ___ + ___	88 = ___ + ___ + ___
27 = ___ + ___ + ___	58 = ___ + ___ + ___	89 = ___ + ___ + ___
28 = ___ + ___ + ___	59 = ___ + ___ + ___	90 = ___ + ___ + ___
29 = ___ + ___ + ___	60 = ___ + ___ + ___	91 = ___ + ___ + ___
30 = ___ + ___ + ___	61 = ___ + ___ + ___	92 = ___ + ___ + ___
31 = ___ + ___ + ___	62 = ___ + ___ + ___	93 = ___ + ___ + ___
32 = ___ + ___ + ___	63 = ___ + ___ + ___	94 = ___ + ___ + ___
33 = ___ + ___ + ___	64 = ___ + ___ + ___	95 = ___ + ___ + ___
34 = ___ + ___ + ___	65 = ___ + ___ + ___	96 = ___ + ___ + ___
35 = ___ + ___ + ___	66 = ___ + ___ + ___	97 = ___ + ___ + ___
36 = ___ + ___ + ___	67 = ___ + ___ + ___	98 = ___ + ___ + ___
37 = ___ + ___ + ___	68 = ___ + ___ + ___	99 = ___ + ___ + ___