GOLDBACH'S CONJECTURE

In 1742, Christian Goldbach made a conjecture that:

a) Each even number greater than 2 is the sum of exactly two prime numbers; and
b) Each odd number greater than 5 is the sum of exactly three prime numbers.

Can you find the primes that would make Goldbach's Conjecture true for the first 100 whole numbers? The true mathematician will also find all combinations of primes that work. The first 25 primes are:

this answer key does not find

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

2 + 2 = 4

3 + 3 = 6

2 + 2 + 3 = 7

3 + 5 = 8

3 + 3 + 3 = 9

3 + 7 = 10

2 + 2 + 7 = 11

5 + 7 = 12

3 + 3 + 7 = 13

3 + 11 = 14

5 + 5 + 5 = 15

3 + 13 = 16

3 + 7 + 7 = 17

5 + 13 = 18

3 + 3 + 13 = 19

3 + 17 = 20

2 + 2 + 17 = 21

5 + 17 = 22

5 + 7 + 11 = 23

5 + 19 = 24

5 + 7 + 13 = 25

7 + 19 = 26

2 + 2 + 23 = 27

5 + 23 = 28

3 + 3 + 23 = 29

11 + 19 = 30

3 + 5 + 23 = 31

3 + 29 = 32

11 + 11 + 11 = 33

3 + 31 = 34

2 + 2 + 31 = 35

5 + 31 = 36

3 + 3 + 31 = 37

7 + 31 = 38

3 + 5 + 31 = 39

3 + 37 = 40

2 + 2 + 37 = 41

5 + 37 = 42

3 + 3 + 37 = 43

3 + 41 = 44

5 + 11 + 29 = 45

23 + 23 = 46

2 + 2 + 43 = 47

11 + 37 = 48

3 + 3 + 43 = 49

7 + 43 = 50

5 + 23 + 23 = 51

5 + 47 = 52

5 + 5 + 43 = 53

7 + 47 = 54

7 + 19 + 29 = 55

3 + 53 = 56

2 + 2 + 53 = 57

5 + 53 = 58

13 + 23 + 23 = 59

7 + 53 = 60

3 + 5 + 53 = 61

3 + 59 = 62

5 + 5 + 53 = 63

3 + 61 = 64

2 + 2 + 61 = 65

13 + 53 = 66

3 + 5 + 59 = 67

7 + 61 = 68

3 + 5 + 61 = 69

3 + 67 = 70

2 + 2 + 67 = 71

5 + 67 = 72

3 + 3 + 67 = 73

7 + 67 = 74

2 + 2 + 71 = 75

5 + 71 = 76

2 + 2 + 73 = 77

5 + 73 = 78

3 + 3 + 73 = 79

7 + 73 = 80

3 + 5 + 73 = 81

3 + 79 = 82

2 + 2 + 79 = 83

5 + 79 = 84

3 + 3 + 79 = 85

3 + 83 = 86

2 + 2 + 83 = 87

5 + 83 = 88

3 + 3 + 83 = 89

7 + 83 = 90

3 + 5 + 83 = 91

3 + 89 = 92

3 + 7 + 83 = 93

5 + 89 = 94

3 + 3 + 89 = 95

7 + 89 = 96

7 + 7 + 83 = 97

17 + 79 = 98

5 + 5 + 89 = 99

3 + 97 = 100

7 + 11 + 83 = 101

5 + 97 = 102

3 + 3 + 97 = 103

7 + 97 = 104