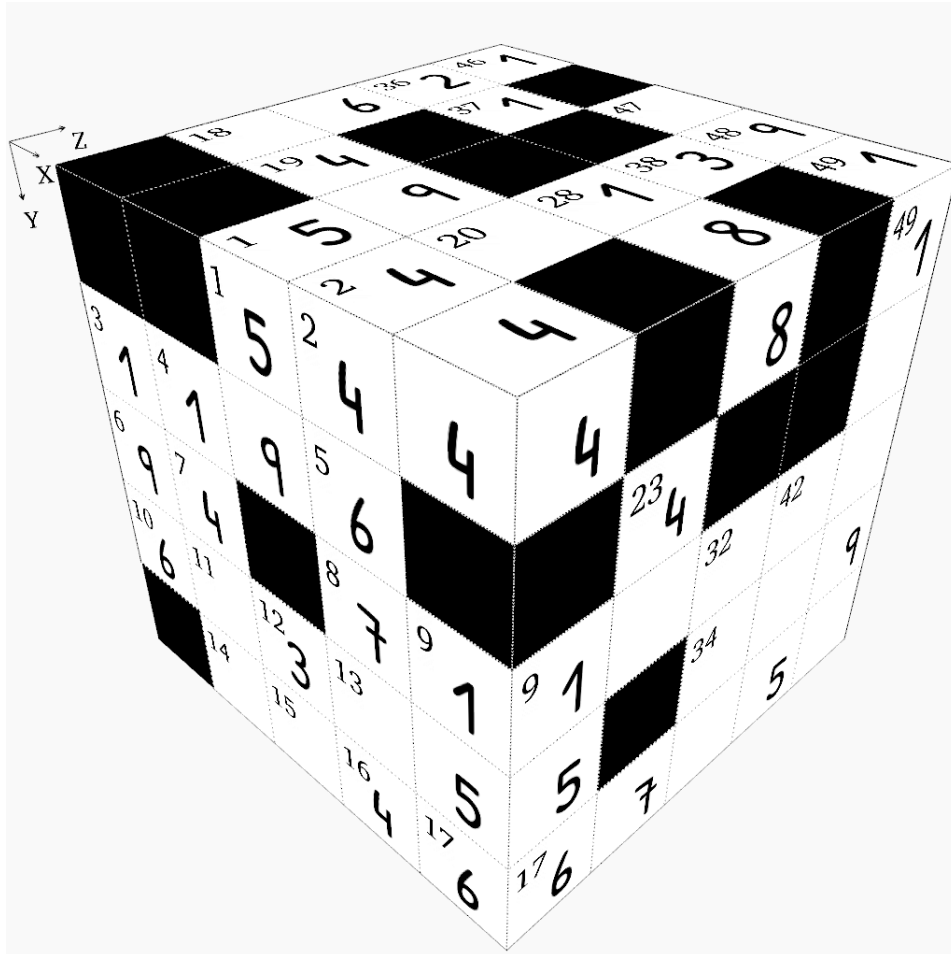


Difficulty: ☆☆☆☆☆

Cube - Beginner Puzzle #19



This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

Rules:

1. "Words" may not start with a zero.
2. "Words" in the X direction read from left to right.
3. "Words" in the Y direction read from top to bottom.
4. "Words" in the Z direction read from front to back.
5. There is one unique solution which satisfies all the clues given below.
6. Some "words" may not have clues. They will be determined by the "words" which intersect them.

If we take the cube pictured above and divide it into individual X-Y layers, we will get these planes:

		1 5	2 4	4		18	19 4	9	20		6			28 1	8
3 1	4 1	9	5 6			21			22 5	23 4		29 9	30 3	0	
6 9	7 4		8 7	9 1		24	4	25	5		31		9		32
10 6	11	12 3	13	5			26 5	1	9		33 2		2		34
	14	15	16 4	17 6		27 7		2	9	7		35	6		

36 2	37 1		38 3		46 1		47	48 9	49 1
39 2		40 1	7		0		50 9	1	
41	4		1	42	51 8	52	9	5	
7			43 9		53 3			1	9
44 3	6		45	5			54 3		

X Direction

- 1 Seventeen times Z44
- 3 Fifty-two times a prime number
- 6 Same as X43
- 8 Mean of Y37 and X28
- 10 Eighty-five times a prime number
- 14 X31 minus Z25
- 18 Rearranged digits of X14
- 21 Mean of Y31 and Y9
- 22 Y23 plus Y31
- 24 Mean of Y47 and Z13
- 26 Three times a prime number
- 27 Y20 plus X35
- 28 Mean of Y31 and Y52
- 29 Sixty-two times Y40
- 31 Fifty-five times a prime number
- 33 Twenty-four times a prime number
- 35 One thousand two hundred sixty-one less than Z25
- 36 Y42 minus Y37
- 39 Three times a prime number
- 41 First two digits are the same as Y52
- 43 Mean of Z44 and Y9
- 44 A square
- 45 Y52 plus X8
- 47 A prime number
- 50 X29 minus Z3
- 51 Seventeen thousand eight hundred eighty-six more than Z5
- 53 Last two digits are the same as last two digits of X26
- 54 Thirty-five times a prime number

Y Direction

- 1 X8 minus Y31
- 2 A palindrome
- 3 A square
- 4 Thirty-one times a prime number
- 9 Mean of Z33 and Y12
- 12 Mean of X44 and Y23
- 18 Mean of Z4 and X21
- 19 Ninety-nine times a prime number
- 20 A prime number
- 23 X28 plus Y52
- 25 Thirty-four times Z3
- 28 A prime number
- 29 Fifteen times a prime number
- 30 Twenty-six times a prime number
- 31 Z12 divided by twenty-six
- 32 Y25 minus X21
- 36 Mean of Y19 and X45
- 37 X50 minus Y18
- 38 A prime number
- 40 Mean of Y31 and X28
- 42 Half of Y18, then subtract Z34
- 46 Sixteen times a prime number
- 47 Eight thousand three hundred ninety-five more than Y48
- 48 Its digits total Y52
- 49 Z9 plus half of Z11
- 52 Y23 minus Z3

Z Direction

- 1 A prime number
- 2 One thousand six hundred eighty-eight more than Y19
- 3 Y12 minus X36
- 4 Four times a prime number
- 5 Y20 minus Y32
- 6 Sixteen times a prime number
- 7 Fifty-four times a prime number
- 8 Forty-five times a prime number
- 9 A prime number
- 11 Y31 plus X1
- 12 Y12 plus Z33
- 13 One thousand nine hundred six less than X27
- 14 Four times a prime number
- 15 Twice a prime number
- 16 Seventy-eight times a prime number
- 17 Two thousand seven hundred eighty-four more than Z5
- 18 A prime number
- 25 A prime number
- 30 Mean of X43 and X1
- 33 Mean of Y32 and Z3
- 34 Z33 minus Y52
- 39 Y1 minus Y12
- 44 Y9 minus Y37

Solution:

		5	4	4		7	4	9	6		6			1	8
1	1	9	6			8	4		5	4		9	3	0	
9	4		7	1		8	4	6	5	2		1	4	9	0
6	5	3	6	5			5	1	9			2	6	2	3
	7	9	4	6		7	1	2	9	7		5	6	9	8

2	1		3			1		9	9	1
2	2	1	7			0		9	1	2
2	4	5	1	1		8	2	9	5	7
7			9	4		3	4	1	1	9
3	6		9	5		2		3	8	5