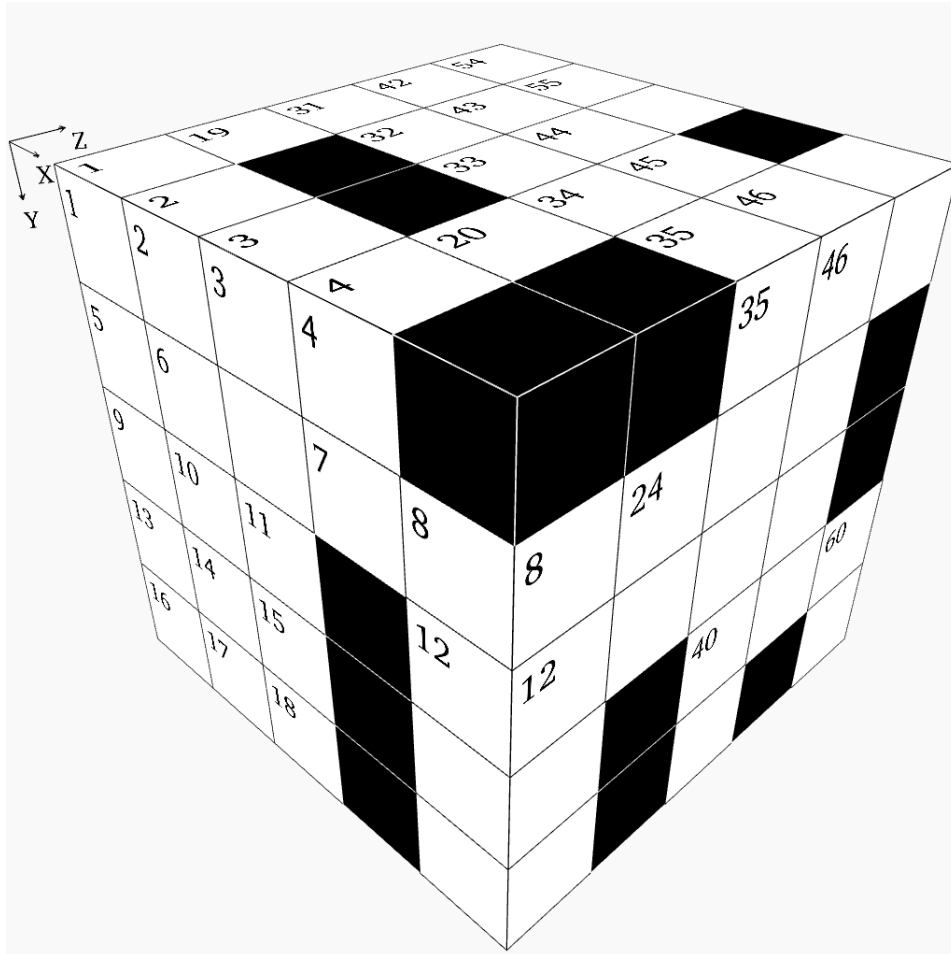


Difficulty: ★★★★★

Cube - Hard Puzzle #47



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	2	3	4		19			20		31	32	33	34	35
5	6		7	8	21	22		23	24	36		37		
9	10	11		12	25		26	27		38				
13	14	15			28					39				40
16	17	18				29		30			41			

42	43	44	45	46	54	55			
47									
48						56	57	58	
49		50	51		59				60
52		53						61	

X Direction

- 1 Twelve times a prime number
- 5 First two digits are the same as first two digits of Z5
- 9 X39 times Z37
- 13 X29 minus X16
- 16 Z15 times Z37
- 21 Seven times X23
- 23 X16 divided by Z15
- 25 Twenty-one times a prime number
- 28 Mean of X1 and X16
- 29 A prime number
- 31 Eleven times a prime number
- 36 Twice the result of X59 minus X25
- 38 A palindrome
- 39 Z50 minus X23
- 41 Twenty-two times X39
- 42 A prime number
- 47 Twenty-five times a prime number
- 48 One thousand nine hundred nine more than X47
- 49 Four thousand six hundred eighty-nine more than Y44
- 53 Z52 plus X61
- 54 Mean of X9 and Y59
- 56 Mean of Z40 and Z30
- 59 Three times a prime number
- 61 X21 minus X39

Y Direction

- 1 X47 minus X54
- 2 X56 times Z40
- 3 Twice a prime number
- 4 X49 divided by Z30
- 8 Thirty-four times Z15
- 19 One thousand three hundred four more than Y46
- 20 Last two digits are the same as last two digits of Y42
- 22 Four times a prime number
- 24 Y59 minus Y4
- 26 Twice the result of Y33 plus X21
- 31 Half of Y22, then subtract Y34
- 32 Mean of Y3 and Y55
- 33 Y59 plus Y58
- 34 A prime number
- 35 Thirty-eight times a square
- 42 Nine times a prime number
- 43 Twice a prime number
- 44 Twice a prime number
- 45 Mean of X48 and X41
- 46 A prime number
- 55 Seventy-two times a prime number
- 57 X42 minus half of Z10
- 58 Y32 divided by X39
- 59 Z50 minus X61
- 60 Z51 minus Y4

Z Direction

- 1 Thirteen thousand three hundred ninety-five more than Z6
- 4 Z35 times X23
- 5 Eleven times a square
- 6 First two digits are the same as first two digits of Z9
- 7 Three times a prime number
- 8 Rearranged digits of Z27
- 9 Three times a prime number
- 10 Sixty-eight times a prime number
- 11 Two thousand eight hundred forty-four less than Y42
- 12 Twice a prime number
- 13 A prime number
- 14 Four thousand forty-seven more than Z11
- 15 Z40 minus Z51
- 17 Same as Y34
- 18 Last two digits are the same as last two digits of X9
- 27 Twice a prime number
- 30 Seven times a prime number
- 32 Mean of Y4 and Y33
- 33 A square
- 35 Mean of Z17 and Z50
- 37 Z50 minus X39
- 40 X21 plus Y24
- 50 Mean of X13 and Y60
- 51 Z1 divided by Y8
- 52 Y60 minus X53

Solution:

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

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