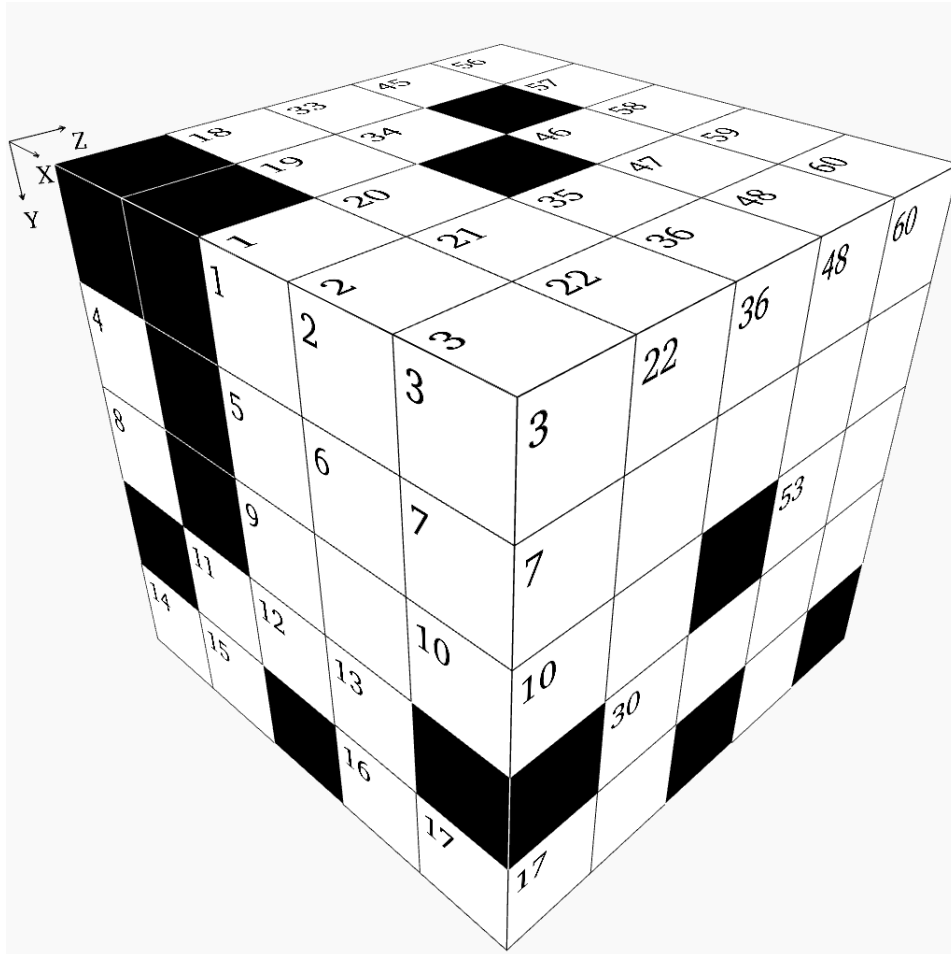


Difficulty: ★★★★★

Cube - Hard Puzzle #8



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	18	19	20	21	22	33	34		35	36
4		5	6	7	23	24					37	38		
8		9		10	25	26				39				
	11	12	13		27		28	29	30	40	41		42	
14	15		16	17	31			32		43		44		

45		46	47	48	56	57	58	59	60
49	50				61				
51			52	53	62				
	54						63		
55							64		

X Direction

- 1 X63 minus Y29
- 5 Four times X54
- 9 Seven times a prime number
- 11 Y36 plus Z44
- 14 X61 minus Z14
- 16 Z53 plus Y35
- 18 A prime number
- 23 Nine hundred seven more than X51
- 25 X11 minus X35
- 28 Thirteen times Z49
- 31 Half of Y56, then subtract Y2
- 32 X33 minus X16
- 33 X35 reversed
- 35 Y29 plus X31
- 37 Ten times a prime number
- 39 Fifty-nine times Z52
- 40 Fifty times a prime number
- 43 One thousand three hundred forty-seven more than Z26
- 46 Half of X5
- 49 Twice the result of Z2 plus X43
- 51 First two digits are the same as Z41
- 54 X35 plus Z19
- 55 Y22 divided by Y4
- 56 Four thousand nine hundred ninety-eight less than Y56
- 61 A prime number
- 62 Two thousand four hundred ninety-five more than Z24
- 63 Twice the result of X37 minus Y50
- 64 A prime number

Y Direction

- 1 Mean of Y21 and Z24
- 2 Sixty-six times a prime number
- 3 Z30 minus half of X46
- 4 Mean of X64 and X16
- 11 Z13 minus Y19
- 18 Y3 plus Y48
- 19 Z13 minus X31
- 20 Twice the result of Y1 plus Z10
- 21 X1 minus Y19
- 22 Fifty-nine times a square
- 29 X35 minus Y11
- 34 Twice the result of Z8 minus Y48
- 35 Y36 minus X64
- 36 Mean of X32 and Z44
- 38 A prime number
- 39 Y18 divided by Z53
- 42 Mean of X14 and Y35
- 45 X5 minus Y35
- 46 Y20 plus X62
- 47 Mean of X11 and Z16
- 48 A prime number
- 50 Seventy-five times X14
- 56 One thousand eight hundred ninety more than Y34
- 57 Twenty-one times Y29
- 58 Y38 plus half of X39
- 59 Thirteen times a prime number
- 60 Twenty times X1

Z Direction

- 1 Mean of X64 and Z4
- 2 Ninety-six times a prime number
- 3 Forty-four times a prime number
- 4 X31 plus Z53
- 5 Ninety times a prime number
- 6 Z3 minus half of Y46
- 7 A prime number
- 8 A prime number
- 9 Forty times a prime number
- 10 X14 plus Z52
- 12 Two thousand four hundred eighty-three more than X18
- 13 Five times X33
- 14 Seventy-two times a prime number
- 15 Five times a prime number
- 16 Rearranged digits of X25
- 17 X63 minus X55
- 18 Three times a prime number
- 19 Z49 minus Z52
- 24 Three times a prime number
- 26 Nine times a prime number
- 27 Mean of Z10 and X16
- 30 Y3 plus X54
- 41 Mean of X33 and Y21
- 44 A square
- 46 Y57 divided by twenty-one
- 49 Mean of Z4 and Y35
- 52 Y45 minus Y57
- 53 Y35 minus Y29

Solution:

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

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