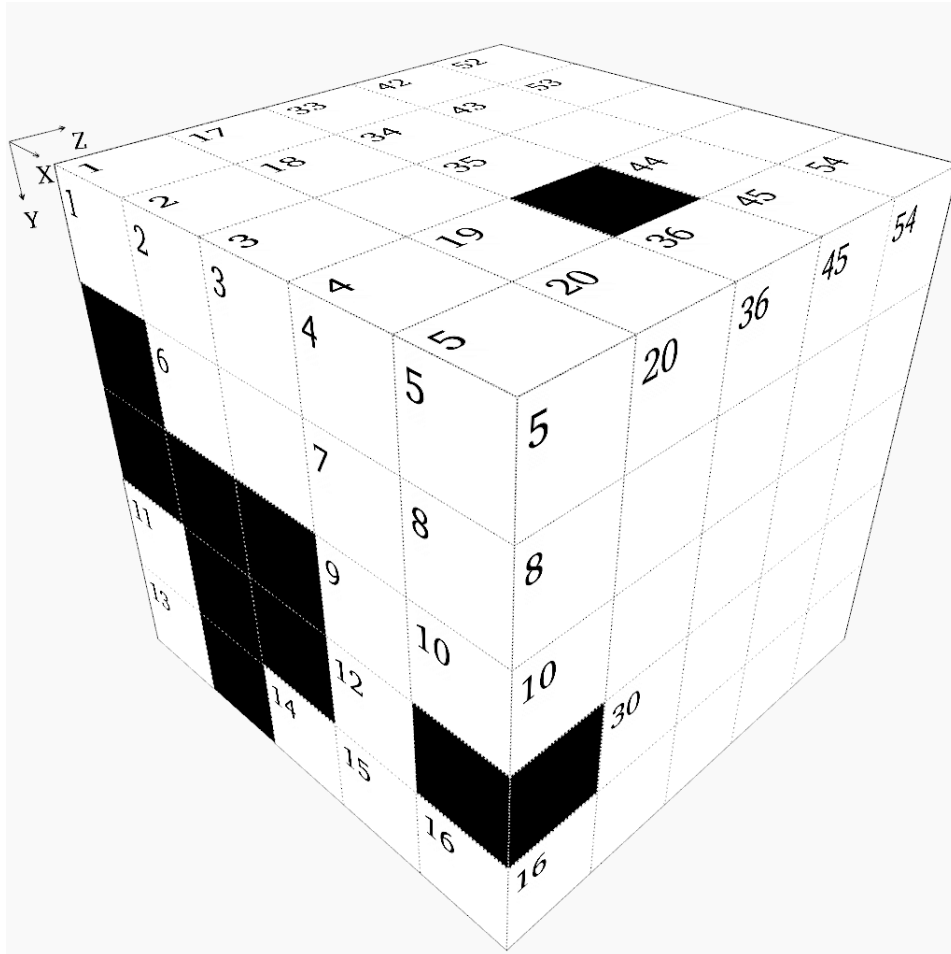


Difficulty: ★★★★★

Cube - Challenging Puzzle #46



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

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

X Direction

- 1 Twelve times a prime number
- 6 Twelve times a prime number
- 9 Three times Y39
- 14 Y19 plus X47
- 17 A palindrome
- 21 Y2 minus Y53
- 22 Mean of Z4 and Y39
- 23 A cube
- 26 Z8 minus half of X38
- 31 Two thousand seven hundred thirty-four less than Z8
- 33 Y2 plus Y38
- 37 X14 minus X59
- 38 Thirty-eight times a prime number
- 40 Twenty thousand fifty-seven less than Y35
- 41 Three times a prime number
- 42 Seven times a prime number
- 46 Y11 reversed
- 47 X57 minus Y2
- 48 Forty-two times a prime number
- 50 Ten times a prime number
- 51 A prime number
- 52 Eleven times a prime number
- 55 Z11 minus half of X50
- 57 A square
- 59 Y56 minus X47

Y Direction

- 2 Y53 plus X47
- 3 Half of X46, then subtract X59
- 4 Rearranged digits of Y42
- 5 Z4 plus X33
- 11 X46 reversed
- 17 Rearranged digits of X48
- 18 A prime number
- 19 X14 minus X21
- 20 Sixty-two times a prime number
- 25 Z28 minus X22
- 29 Y53 minus Z44
- 34 Last two digits are the same as X37
- 35 Seventeen times a prime number
- 36 Fourteen times a prime number
- 38 Consecutive digits in descending order
- 39 Mean of Z44 and Y2
- 42 Ten thousand nine hundred fourteen more than Y18
- 43 Mean of Z14 and X50
- 44 X31 minus half of Y20
- 45 A prime number
- 49 X51 minus Z13
- 53 A square
- 54 Y17 plus half of X21
- 56 X21 plus X59
- 58 X14 minus X9

Z Direction

- 1 Y4 minus X22
- 2 X52 plus half of Y36
- 3 Mean of X40 and Z4
- 4 X57 minus Y3
- 5 Y35 plus half of Z39
- 6 X48 minus X41
- 7 X59 plus X57
- 8 Twice a prime number
- 10 Twenty-three times a prime number
- 11 Two hundred ninety-two less than Y43
- 12 Fifty-nine times a square
- 13 A prime number
- 14 Thirty times a square
- 15 Y54 minus Y17
- 16 A prime number
- 23 A prime number
- 24 X55 plus Y58
- 25 Twice a prime number
- 27 Seventeen times a prime number
- 28 Thirty-four times Z44
- 30 A prime number
- 32 Two thousand one hundred eighty-five less than X51
- 39 A square
- 44 X46 minus X57

Solution:

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

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