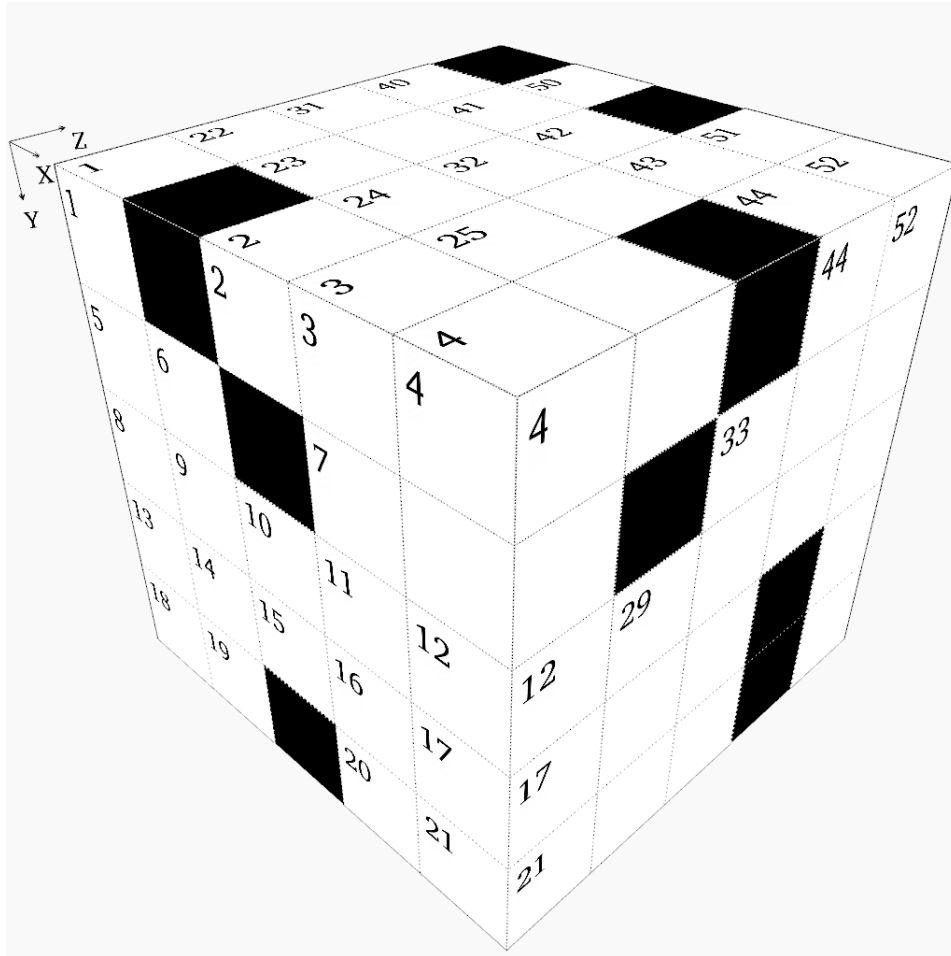


Difficulty: ★★★★★

Cube - Hard Puzzle #15



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

40	41	42	43	44		50		51	52
45	46		47		53				
		48			54			55	
							56		
49					57				

X Direction

- 2 Z4 plus X7
- 5 Y10 reversed
- 7 Mean of Y34 and Z4
- 8 Twice a prime number
- 13 Fourteen times a prime number
- 18 Y32 minus X28
- 20 A square
- 22 Thirty-seven times a prime number
- 26 Y29 plus half of X7
- 28 A prime number
- 30 Thirteen thousand seven hundred fifty less than X45
- 31 Half of Y40, then subtract X38
- 34 One thousand four hundred ninety-seven less than Y51
- 37 Twice a prime number
- 38 A prime number
- 40 Fourteen thousand eight hundred thirty-eight more than Y1
- 45 Sixteen times a prime number
- 48 Y51 divided by forty-six
- 49 Twice the result of X48 plus Y56
- 51 Z27 divided by Z21
- 53 Twenty-two times a prime number
- 54 Y41 minus Z6
- 55 X40 divided by Z23
- 56 Y50 plus Z44
- 57 Mean of X30 and Y53

Y Direction

- 1 X22 minus Y22
- 3 Twice the result of X37 minus Z8
- 4 Z11 minus X56
- 6 Mean of Y25 and Y10
- 10 X5 reversed
- 22 A prime number
- 23 X53 plus Z47
- 24 Four times a prime number
- 25 Thirty-two times a prime number
- 29 A prime number
- 32 Sixty-eight times a prime number
- 33 Z1 plus half of Y36
- 34 Z46 plus X2
- 35 Sixty-one times Z6
- 36 Twenty-four times X51
- 40 Seven hundred ninety-nine more than X28
- 41 X2 minus Z46
- 42 Sixty-two times Y36
- 43 One hundred forty-nine less than Y29
- 44 Nine times a prime number
- 50 Mean of Z9 and Y35
- 51 First two digits are the same as first two digits of Z21
- 52 Eight hundred fourteen more than Y51
- 53 Eighteen times a prime number
- 56 Z38 divided by eight

Z Direction

- 1 Seven times a prime number
- 2 Rearranged digits of Y6
- 3 Seventy-one times a prime number
- 4 Z44 plus Z6
- 5 Z4 plus Z6
- 6 Z7 minus X54
- 7 Y56 plus X18
- 8 Six thousand seven hundred thirty-nine more than X38
- 9 A square
- 10 X26 minus Z6
- 11 Three thousand nine hundred three less than Z8
- 12 Eighteen thousand three hundred ninety-two more than X22
- 13 Fifteen times a prime number
- 14 Rearranged digits of Z21
- 15 Its digits total Z46
- 16 Mean of Z33 and Y36
- 17 X49 minus Z9
- 19 Sixteen thousand four hundred seventy-one less than X22
- 21 Z9 minus Z47
- 23 Eighteen times X54
- 27 Eleven times a prime number
- 33 Z14 minus X2
- 38 Y44 plus X2
- 39 Four-fifths of Y35
- 44 Mean of X51 and Z4
- 45 Z6 plus X20
- 46 X54 minus X55
- 47 Z4 minus Y10

Solution:

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

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