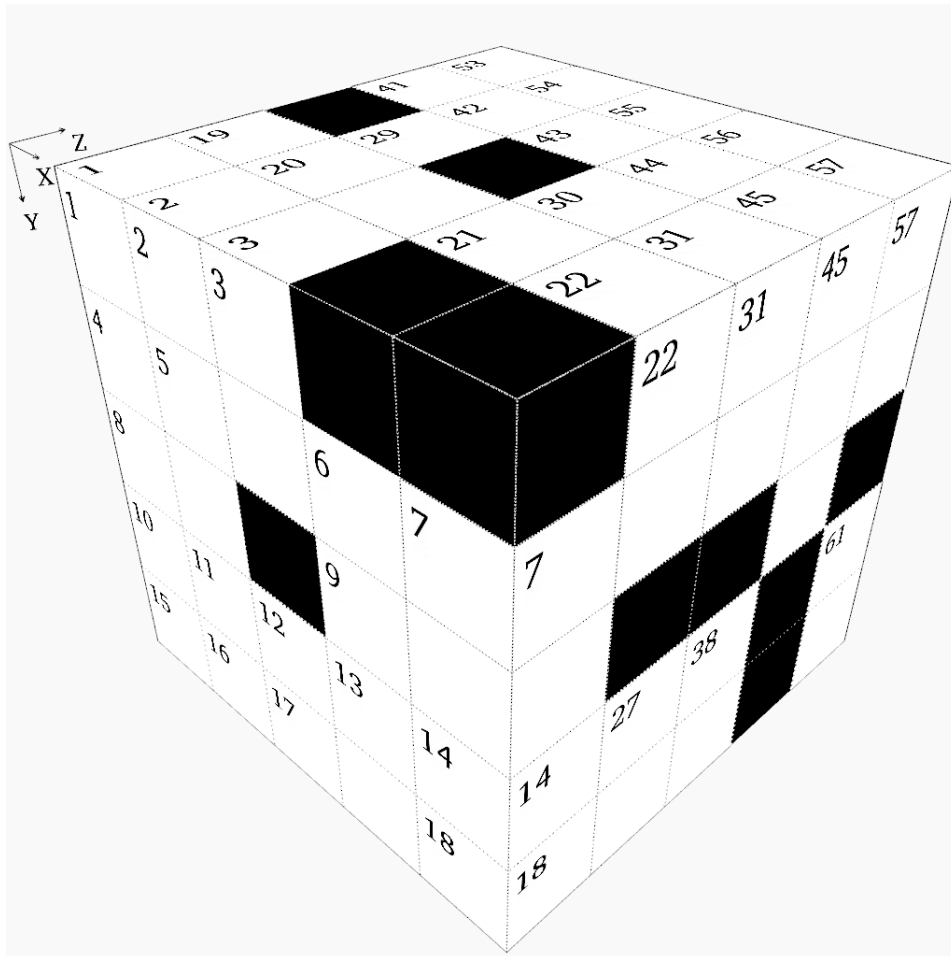


Difficulty: ★★★★★

Cube - Hard Puzzle #11



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

41	42	43	44	45	53	54	55	56	57
46					58				
47	48	49				59			
	50	51			60				61
	52				62				

X Direction

- 1 Z3 plus X50
- 4 Twice a prime number
- 8 Y41 divided by Y27
- 9 Y53 reversed
- 10 A prime number
- 15 Thirty-four times a prime number
- 19 A prime number
- 23 Mean of Y44 and Y29
- 24 Z15 minus Y61
- 25 Y12 minus Y3
- 26 Twice a prime number
- 28 Rearranged digits of X52
- 30 Z14 minus Z3
- 32 Half of X62, then subtract Z3
- 35 X25 plus Y61
- 37 Z12 minus Y3
- 39 Six times a prime number
- 41 Twenty-two times a prime number
- 46 Y45 times Z49
- 47 Mean of Y44 and X52
- 50 X52 minus Y3
- 52 Y41 minus Z51
- 53 Z11 minus half of Y12
- 58 Fourteen thousand two hundred thirty-eight less than Z11
- 59 Last two digits are the same as last two digits of X32
- 60 Twelve times a prime number
- 62 Eighty-four times a prime number

Y Direction

- 1 Y30 minus X26
- 2 Fifty-three times a square
- 3 Two-fifths of X23
- 6 Z21 minus Y57
- 7 Its digits total Y61
- 12 X8 plus Z51
- 19 Y32 minus half of X28
- 20 Y60 plus half of Z43
- 21 Seventeen times Z14
- 22 Y60 minus X24
- 25 Y55 divided by Y29
- 26 Y31 minus Y60
- 27 Mean of Z43 and Y57
- 29 X25 plus Y61
- 30 Thirty more than Z9
- 31 Half of X4, then subtract Y56
- 32 Z40 minus Z34
- 36 Mean of Y57 and X23
- 38 Y12 minus Z15
- 41 A square
- 42 Eleven times a prime number
- 43 Twice a prime number
- 44 Ten thousand sixty less than Y54
- 45 X46 divided by X25
- 53 Z34 plus half of X24
- 54 Rearranged digits of X58
- 55 Y25 times X35
- 56 Six thousand seven hundred ninety less than Y54
- 57 X50 divided by X37
- 60 Z12 minus Y19
- 61 Y53 minus Y29

Z Direction

- 1 Y26 plus Y60
- 2 Twice the result of Y54 plus X39
- 3 Z34 minus X37
- 4 Twelve thousand four hundred seventy-seven less than Z9
- 5 Eleven times a square
- 6 Three times a prime number
- 7 Eighty-eight times a prime number
- 9 Seventeen thousand seventy-two less than Y2
- 11 One thousand two hundred ninety-two less than Z2
- 12 Z18 minus Y45
- 13 Nineteen times a prime number
- 14 X35 plus X25
- 15 Y57 plus Y61
- 16 Three thousand one hundred seventy-seven less than Y30
- 17 A palindrome
- 18 Z16 divided by X30
- 21 Y6 plus Y22
- 22 Thirteen times a prime number
- 33 Y25 divided by four
- 34 Z51 plus Z15
- 40 Forty-two times X24
- 41 Y57 plus Y31
- 43 Y12 minus Z15
- 48 Z33 minus X9
- 49 Mean of Y22 and Z12
- 51 Z18 minus Y41

Solution:

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

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