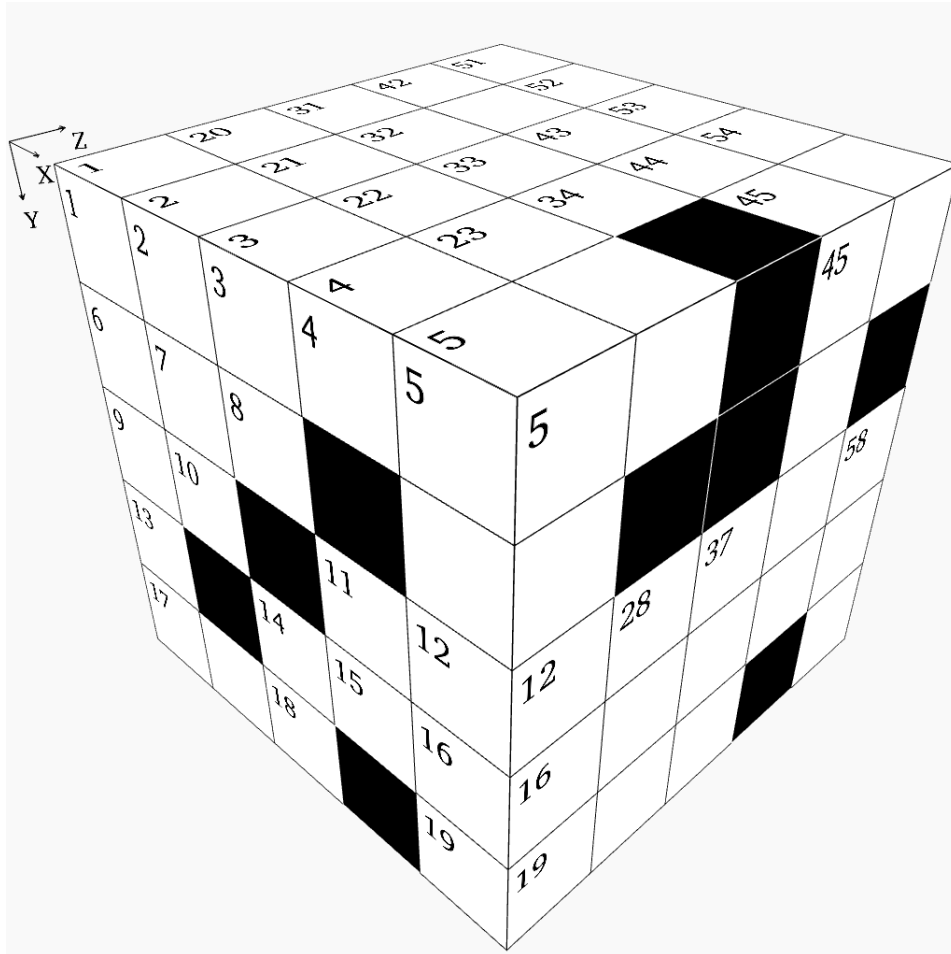


Difficulty: ★★★★★

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

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

X Direction

- 1 Consecutive digits unordered
- 6 Z19 minus Y20
- 9 Y11 plus Y31
- 11 Y3 minus Z5
- 14 X6 plus Y44
- 17 Half of Y2, then subtract Y14
- 20 Mean of Y33 and Y56
- 24 Twenty-four times a prime number
- 26 Eight times a prime number
- 29 X1 minus X26
- 31 Mean of Z27 and Y60
- 35 Fifty-four times a prime number
- 36 Eighteen times a prime number
- 38 A prime number
- 39 Last two digits are the same as last two digits of X26
- 42 Eleven times a prime number
- 46 Mean of X9 and Y28
- 48 Ten times a prime number
- 50 Sixty-seven times a prime number
- 51 Z2 plus X14
- 55 Nine times a prime number
- 57 Seventy less than Y37
- 59 Last two digits are the same as X62
- 61 Mean of Z41 and Y29
- 62 Mean of Y3 and Z5

Y Direction

- 1 Mean of X59 and Z10
- 2 X14 minus X46
- 3 Five times Y38
- 5 A prime number
- 11 Y52 minus X11
- 14 Mean of Z45 and X62
- 20 A cube
- 21 Twenty-three times a prime number
- 22 A prime number
- 23 Nineteen times a square
- 28 Mean of Y58 and Z10
- 29 Mean of Y31 and Y38
- 31 A square
- 32 Thirteen thousand four hundred thirty-five more than Z8
- 33 Eleven thousand five hundred seventy more than X1
- 34 Y22 plus half of Y44
- 37 X6 minus X61
- 38 Sum of digits in Y53
- 42 Half of Z6, then subtract Y21
- 43 Two thousand seven hundred twenty-one less than X38
- 44 Y38 plus Y29
- 45 Ten times a prime number
- 48 X6 minus Y37
- 49 Half of X24, then subtract Z30
- 52 Mean of Z5 and X62
- 53 A prime number
- 54 Nine hundred eighty less than Z1
- 56 Twice a square
- 58 Y54 divided by Z41
- 60 Mean of X62 and Y38

Z Direction

- 1 Sixty-five times a prime number
- 2 Eight thousand one hundred ninety-seven more than Y5
- 3 Twenty-two thousand six hundred eighty-nine less than Z16
- 4 Three times a prime number
- 5 Z47 minus X11
- 6 Consecutive digits unordered
- 7 A prime number
- 8 X51 minus Z19
- 10 Z40 divided by three
- 11 Y58 minus Y11
- 12 Twice the result of Z17 minus X9
- 13 Three times a prime number
- 14 Seven times a prime number
- 15 Five times a prime number
- 16 Thirty-three times a prime number
- 17 First two digits are the same as first two digits of Z10
- 18 Twice the result of Y43 minus Y45
- 19 Twice a square
- 25 Mean of X31 and Y58
- 27 Eighty-five times a prime number
- 30 Forty-three times a square
- 40 Y2 plus Z5
- 41 Mean of Y52 and X17
- 45 Y32 divided by Z19
- 47 Same as Y3

Solution:

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

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