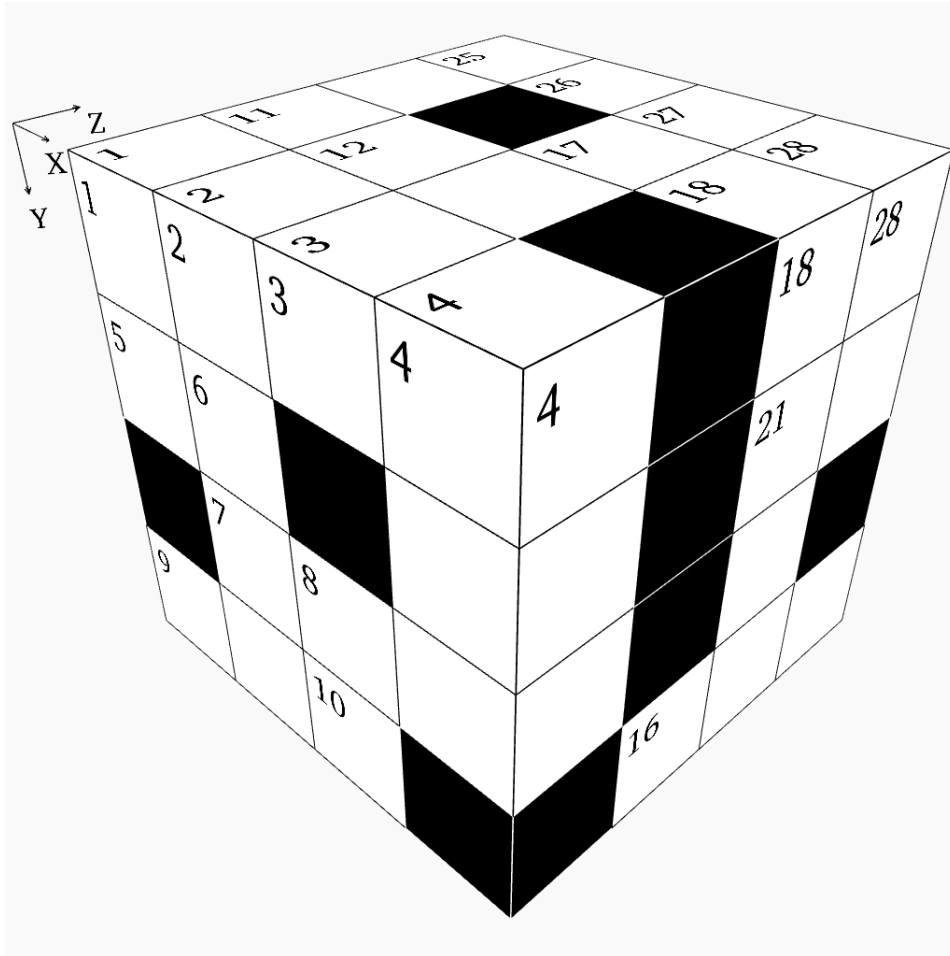


Difficulty: ★★☆☆☆

## Cube - Challenging Puzzle #16



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	11	12					17	18	25	26	27	28	
5	6									19	20	21	29			
	7	8			13	14		22				30				
9		10				15	16	23	24			31				

**X Direction**

- 1 A prime number
- 5 X9 minus Z18
- 7 Four times a prime number
- 9 Y1 plus Z20
- 11 Four times a prime number
- 13 Y17 minus X15
- 15 Z18 minus Z24
- 17 Mean of X9 and Z2
- 19 Y4 minus Y12
- 22 Mean of X13 and Z22
- 23 Seven times a prime number
- 25 Mean of X31 and Y25
- 29 Five hundred seventy-seven less than X1
- 30 Y4 minus X17
- 31 Six times a prime number

**Y Direction**

- 1 Mean of Z21 and Y17
- 2 Twice the result of X23 minus Z8
- 4 X9 plus X19
- 8 Mean of X13 and X15
- 12 Same as X9
- 14 Mean of X13 and Z8
- 17 Mean of Y12 and Y14
- 18 Its digits total Y28
- 19 A prime number
- 22 Y12 minus half of Z22
- 25 A palindrome
- 26 Z10 minus half of X15
- 27 Two hundred thirty-seven less than Z3
- 28 X13 minus Z20

**Z Direction**

- 1 Z7 plus half of X5
- 2 A prime number
- 3 X7 plus X19
- 6 Rearranged digits of X29
- 7 Three times a prime number
- 8 Z18 minus Y8
- 9 Thirty-eight times a prime number
- 10 Sixteen times a prime number
- 16 Rearranged digits of Y19
- 18 Y12 minus X5
- 20 X9 minus Y22
- 21 Mean of Y1 and Y14
- 22 Twice Z20
- 24 Seven less than X22

**Solution:**

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