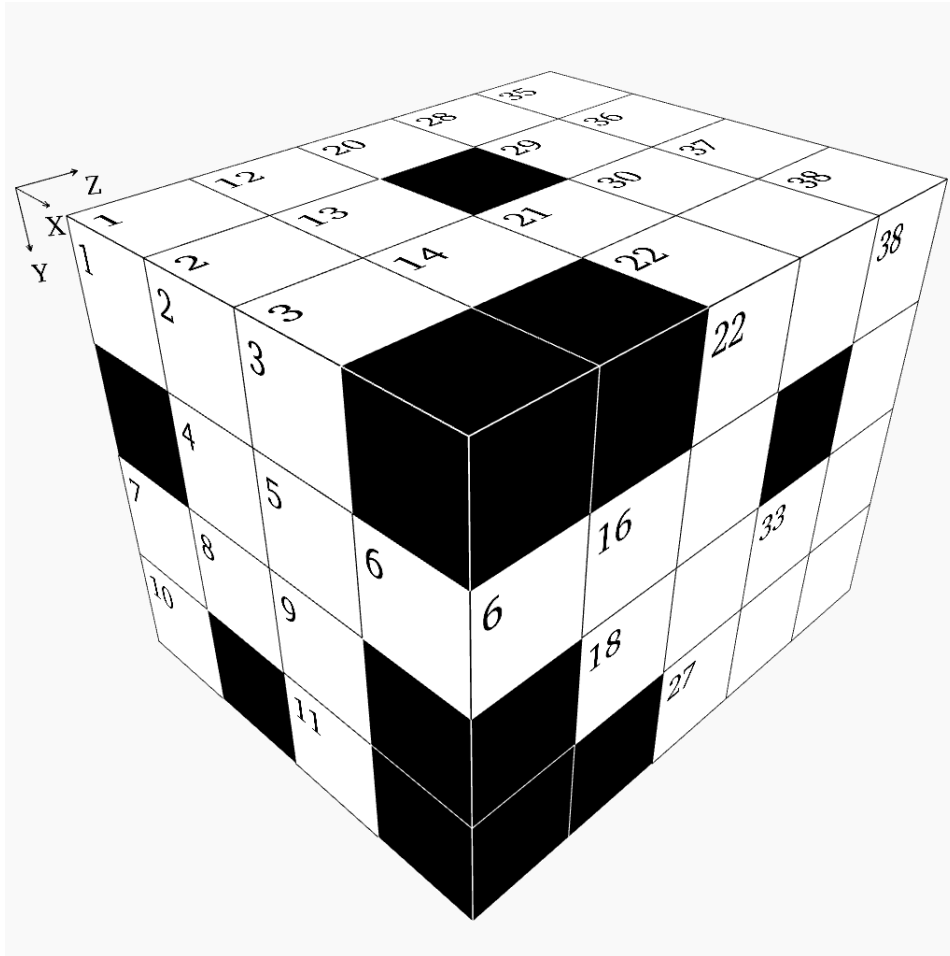


Difficulty: ★★☆☆☆

Box - Challenging Puzzle #63



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 box pictured above and divide it into individual X-Y layers, we will get these planes:

1	2	3		12	13	14		20		21	22
	4	5	6	15			16	23	24		
7	8	9			17		18	25			
10		11		19						26	27

28	29	30		35	36	37	38
31				39			
32			33		40		
34						41	

X Direction

- 1 Z1 divided by Y7
- 4 First two digits are the same as Z25
- 7 X19 minus X32
- 12 X1 minus X25
- 15 One hundred ninety-one more than Y36
- 17 Mean of Y2 and Z22
- 19 Forty times X21
- 21 Y30 minus Z25
- 23 Last two digits are the same as last two digits of Y14
- 25 Y33 minus Z29
- 26 Y24 minus Y21
- 28 Mean of Y20 and X4
- 31 Z15 minus Y37
- 32 A square
- 34 Z18 plus Y33
- 35 X40 plus X39
- 39 Twenty-three times a prime number
- 40 Eighty-nine times Y21
- 41 X21 plus Y30

Y Direction

- 2 Seven times a prime number
- 3 Twelve times a prime number
- 7 Mean of Y35 and Z2
- 12 Y30 divided by three
- 13 Twice the result of Z4 minus Y3
- 14 Seventy-five times X41
- 16 Three times Y30
- 20 Forty-six times a prime number
- 21 X28 divided by X12
- 22 X35 plus Y35
- 24 Y33 minus X21
- 28 Z27 plus Z22
- 29 A prime number
- 30 Mean of X41 and Z25
- 33 A square
- 35 Mean of Y30 and X12
- 36 Rearranged digits of X40
- 37 Thirty-seven times X26
- 38 Twice the result of Y14 minus X32

Z Direction

- 1 First two digits are the same as Y12
- 2 Y16 minus Y24
- 3 Fifty-nine times a prime number
- 4 One thousand four hundred forty-five more than Y22
- 5 Y36 times Z2
- 6 X17 minus X21
- 8 Forty-two times a prime number
- 9 Y24 minus X26
- 10 Z8 minus Y16
- 11 Seventy-five times a prime number
- 15 Ninety-two times X21
- 18 X12 plus X35
- 22 A prime number
- 25 Z29 minus X26
- 27 Twice a prime number
- 29 A square

Solution:

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

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