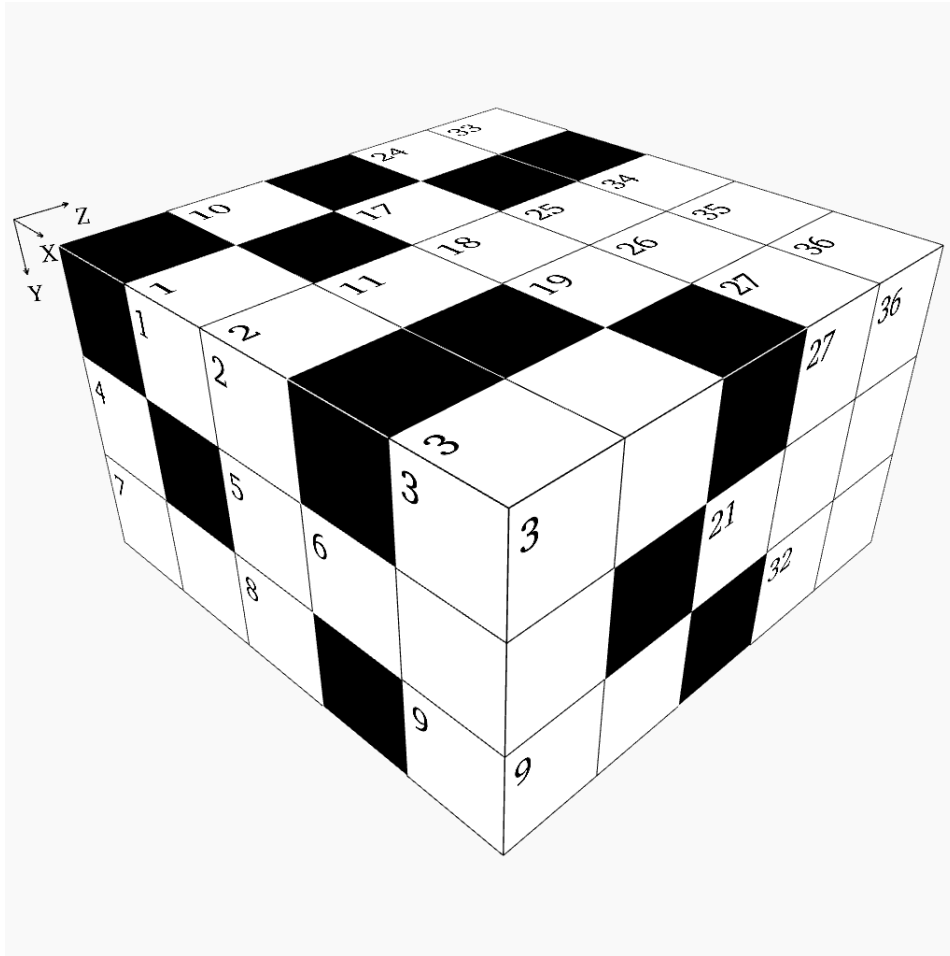


Difficulty: ★★☆☆☆

## Box - Challenging Puzzle #56

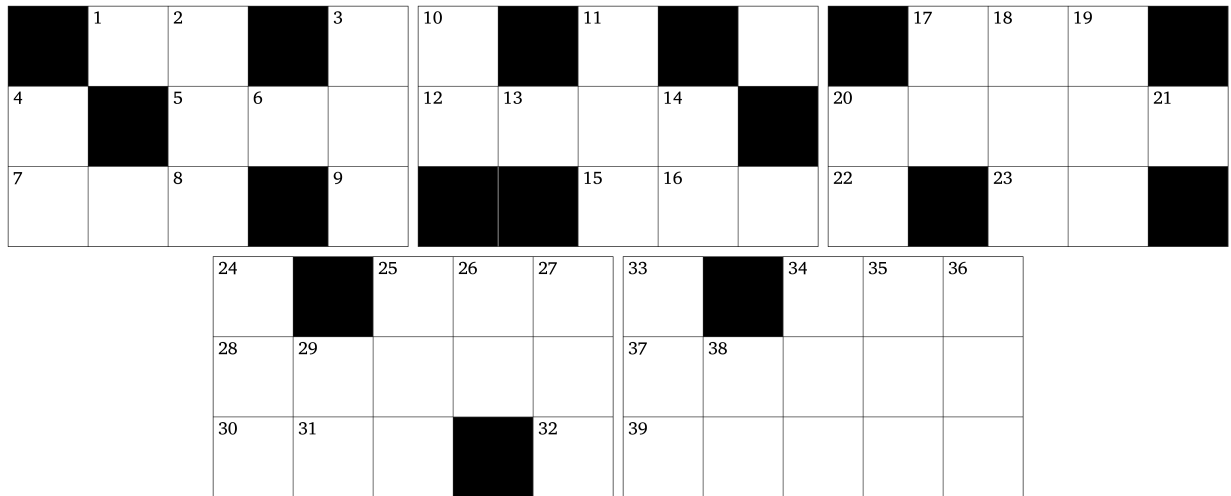


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

### 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:



### X Direction

- 1 Y2 minus Z31
- 5 X34 minus Y26
- 7 Y35 plus Z9
- 12 Three times a prime number
- 15 Y25 minus Y27
- 17 Mean of Y33 and Z31
- 20 Four times a prime number
- 23 Y10 plus X1
- 25 Rearranged digits of Y27
- 28 X39 minus half of X7
- 30 Y4 plus half of Y3
- 34 A prime number
- 37 Z5 minus Y34
- 39 Six times a prime number

### Y Direction

- 2 Mean of Z21 and Y29
- 3 Eleven times Z9
- 4 Z31 minus Y14
- 10 Mean of Y26 and Y29
- 11 A prime number
- 14 X23 minus Z32
- 17 Sum of digits in X12
- 18 Mean of Y2 and X7
- 19 Two-thirds of X17
- 20 A square
- 24 Y34 minus Y36
- 25 Eleven times a prime number
- 26 Y38 minus Z32
- 27 Mean of Z9 and Y24
- 29 Z31 minus Y20
- 33 Rearranged digits of Y36
- 34 X15 minus Z3
- 35 X30 minus Z27
- 36 Twelve times Y38
- 38 X17 divided by seven

### Z Direction

- 2 X15 times Y26
- 3 Y27 minus Z31
- 4 Three hundred more than Z2
- 5 A prime number
- 6 Twice a prime number
- 8 Ten times a prime number
- 9 X1 plus Y26
- 13 Seventeen times a prime number
- 16 Four times Y17
- 19 Z32 plus Z3
- 21 Y10 times Z27
- 22 A prime number
- 24 Z21 divided by Z27
- 27 Y29 minus Z32
- 31 Half of Z6, then subtract Z4
- 32 A square

**Solution:**

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

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