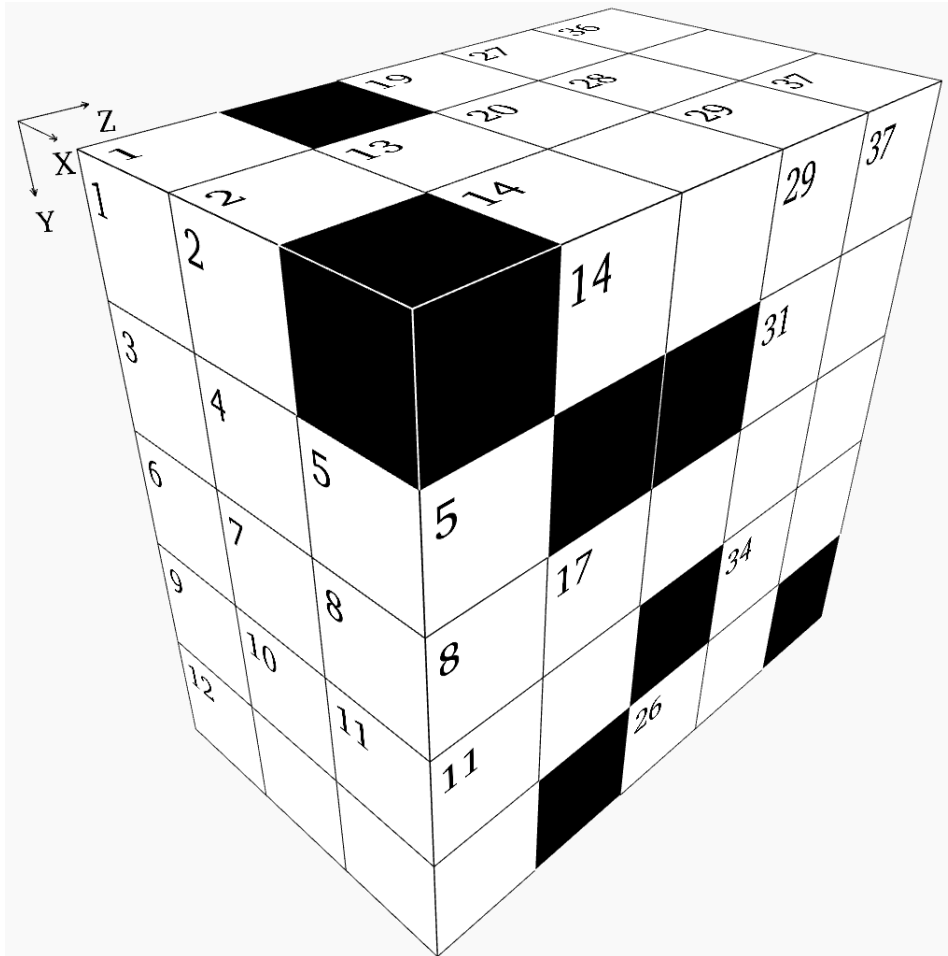


Difficulty: ★★☆☆☆

## Box - Challenging Puzzle #61



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			13	14	19	20		27	28	29	36		37
3	4	5	15			21			30		31			
6	7	8	16		17	22			32					
9	10	11		18		23			33		34	38	39	
12						24	25	26		35		40		

### X Direction

- 1 Z6 minus half of Y29
- 3 Y15 times X18
- 6 Mean of X22 and Z26
- 9 Z10 minus Y1
- 12 A square
- 13 X23 minus Z34
- 15 X19 divided by twenty-one
- 16 Z23 reversed
- 18 Mean of Z34 and X40
- 19 Mean of Y17 and X24
- 21 A square
- 22 Same as X16
- 23 X3 divided by nine
- 24 Four times a prime number
- 27 Eight times Y39
- 30 Y27 divided by X35
- 32 Forty-two times Y15
- 33 Mean of Z19 and Z12
- 35 Twice X21
- 36 Eight times a prime number
- 38 Seven times X1
- 40 X6 minus X21

### Y Direction

- 1 X27 times X13
- 2 X9 times Z26
- 5 Five times a prime number
- 13 A prime number
- 15 X13 minus X35
- 17 Y2 divided by X9
- 19 X19 times X40
- 20 Y37 plus Z4
- 27 Six times a square
- 28 A palindrome
- 29 Sixty-six times a prime number
- 36 Y28 minus half of X16
- 37 Fifteen times a prime number
- 39 Mean of X13 and X6

### Z Direction

- 2 Forty-three times a prime number
- 3 A prime number
- 4 Seven times a prime number
- 6 Twice a prime number
- 7 Rearranged digits of Y27
- 8 Twenty-one times a prime number
- 10 Fifty-one times a prime number
- 11 X30 divided by X21
- 12 A square
- 14 Y17 times X13
- 19 X38 plus half of X36
- 23 A square
- 25 A prime number
- 26 Mean of X21 and X16
- 31 Mean of X13 and X15
- 34 Mean of Y15 and Y39

**Solution:**

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