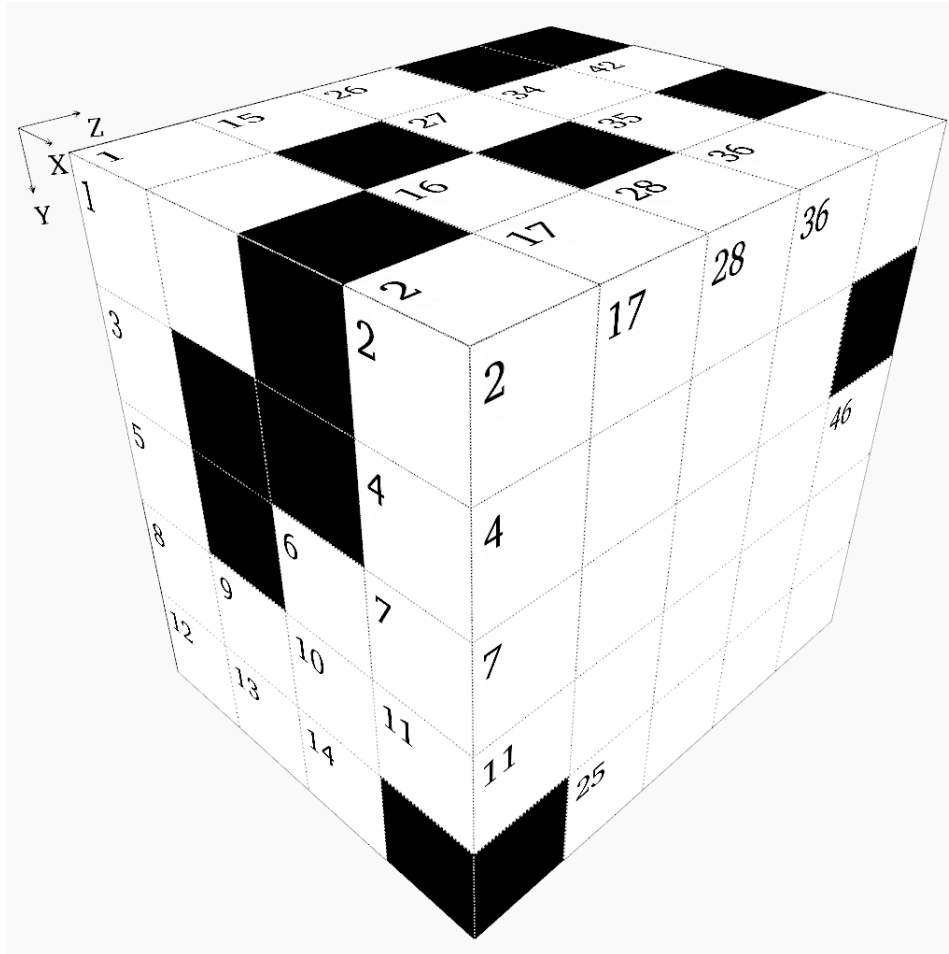


Difficulty: ★★★★★

Box - Hard Puzzle #13



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

	34	35	36		42		
37				43		44	
38		39		45			46
40				47			
41				48			

X Direction

- 1 X24 divided by Z1
- 6 Twice the result of X48 minus X29
- 8 Sixteen times a prime number
- 12 A prime number
- 16 Six times a square
- 18 Mean of Y32 and Z2
- 21 One thousand five hundred ninety-five more than X47
- 23 Four times a prime number
- 24 One thousand two hundred ninety-eight more than Y44
- 26 Y9 minus X30
- 29 Forty-one more than X18
- 30 Z39 minus X1
- 31 Four times a prime number
- 33 A square
- 34 Eight times a prime number
- 37 Twice the result of Z4 minus X12
- 38 Ninety-four times a prime number
- 40 Half of X18, then subtract Y46
- 41 Half of Y35, then subtract Y16
- 43 Z8 divided by Z39
- 45 Thirteen times a prime number
- 47 Six times a prime number
- 48 Seven times a prime number

Y Direction

- 1 Z14 minus X33
- 2 Thirty-six times a prime number
- 6 Seven times a prime number
- 9 Y32 minus X16
- 15 Three times a prime number
- 16 Last two digits are the same as last two digits of X31
- 17 Twice a prime number
- 19 Seventy-seven times a prime number
- 26 A palindrome
- 27 Five times a prime number
- 28 Twelve thousand three hundred eighty-two less than Z9
- 32 X38 minus X47
- 34 Mean of Z9 and X38
- 35 Six times a prime number
- 36 A prime number
- 37 Thirty-one times a prime number
- 42 Mean of Y27 and X29
- 43 A prime number
- 44 Fifty-two times a prime number
- 46 Nine times a prime number

Z Direction

- 1 Mean of X26 and Y6
- 2 Mean of Y26 and Y2
- 3 Twenty-nine times a prime number
- 4 Seventy-six times Z39
- 5 Ten thousand one hundred four more than Z12
- 6 Mean of Y9 and Y32
- 7 A prime number
- 8 Z14 plus Y44
- 9 Consecutive digits unordered
- 10 Rearranged digits of Y16
- 11 Twice the result of Z10 plus Y27
- 12 A prime number
- 13 Nine times a prime number
- 14 Four times a prime number
- 19 X30 times Z39
- 20 Four times a prime number
- 22 Mean of X21 and Y43
- 25 Ninety-one times a prime number
- 27 A prime number
- 39 Mean of Z6 and X6

Solution:

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