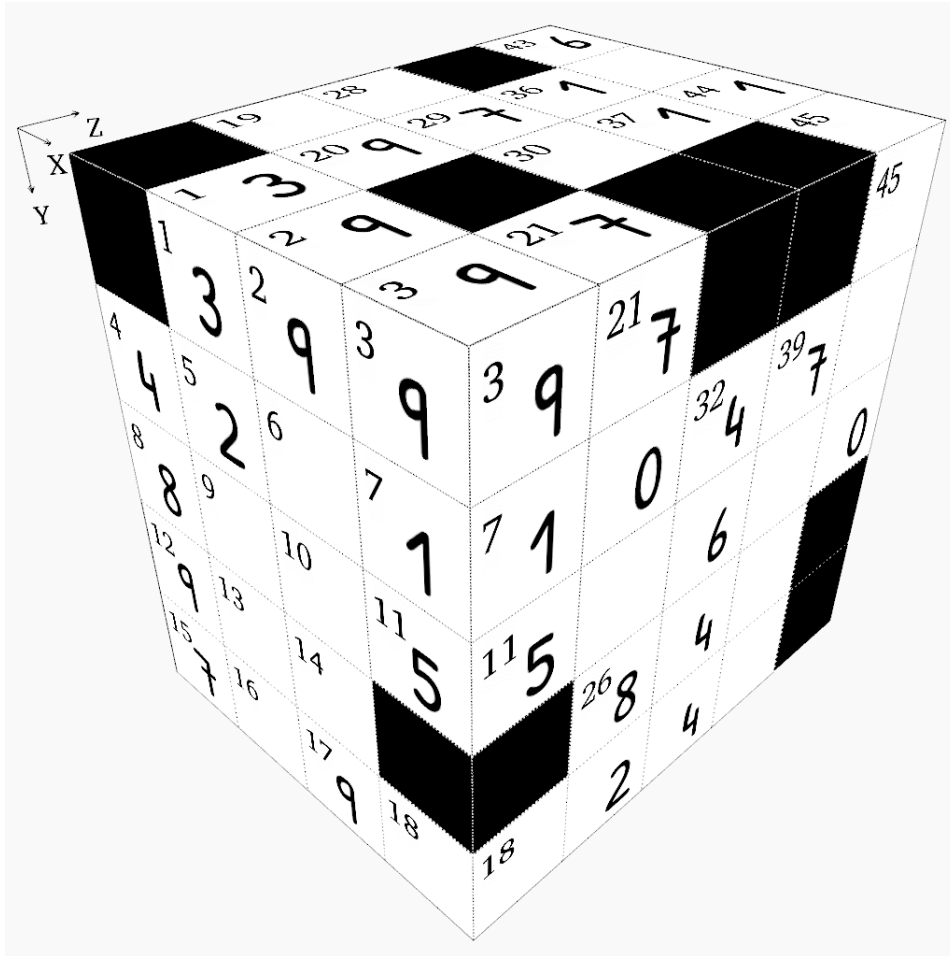


Difficulty: ★★★★★

Box - Beginner Puzzle #23



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	19	20		21	28	29	30	
	3	9	9		9		7		7		
4	5	6	7	22		23		31			32
4	2		1	7	8	2	0		0	1	4
8	9	10	11		24			33			
8			5		4	8		1			6
12	13	14		25			26		34		
9							8		5		4
15	16	17	18	27					35		
7		9					2		7		4

	36	37		43		44	45
	1	1		6		1	
38			39	5		2	
1			7				
40					47		0
9							
41				48		5	
2							
42		9		49			
2				5			

X Direction

- 1 Twenty-one times Z33
- 4 Mean of X8 and X46
- 8 Five times a prime number
- 12 Three-fourths of Z18
- 15 A prime number
- 19 X12 minus Z26
- 22 One thousand five hundred one more than X43
- 24 X25 minus Y45
- 25 Fifty-four times X46
- 27 Sixty-six times X46
- 28 X25 minus Y44
- 31 Forty-two times a prime number
- 33 X1 plus X38
- 34 Fourteen times a prime number
- 35 Y39 divided by X36
- 36 Z41 minus Y25
- 38 Sixty-three times Z33
- 40 Consecutive digits unordered
- 41 Two hundred seventeen less than Z5
- 42 Twice a prime number
- 43 Seventy-one times a prime number
- 46 A cube
- 47 Y44 minus Y47
- 48 Mean of Y25 and X1
- 49 Y47 divided by Y25

Y Direction

- 1 Sixty-five times a prime number
- 2 Nine times a prime number
- 3 Z26 plus Z15
- 4 Fifty-nine times a prime number
- 19 Y43 plus Z41
- 20 Seventeen times a prime number
- 21 Last two digits are the same as last two digits of X27
- 23 Twice a prime number
- 25 Same as X36
- 28 X38 divided by seven
- 29 Eighty-seven times a prime number
- 30 Last three digits are the same as Y45
- 32 Y36 minus X31
- 36 First two digits are the same as X36
- 37 Mean of Z1 and Y43
- 38 Twice a square
- 39 X35 times Y25
- 43 Consecutive digits in descending order
- 44 Five times a prime number
- 45 Y3 plus X49
- 47 X36 times X49
- 48 A square

Z Direction

- 1 First two digits are the same as first two digits of X1
- 3 Y45 divided by ten
- 4 Fifteen times a prime number
- 5 A prime number
- 6 Twenty-three times a square
- 7 A prime number
- 9 Twice the result of Y30 minus X40
- 10 Last two digits are the same as last two digits of X24
- 11 Three thousand five hundred twenty-two less than Z6
- 12 Mean of Y28 and Y25
- 13 Fifty times a prime number
- 14 Eight thousand seven hundred eighty-one less than Z9
- 15 X43 divided by X19
- 16 First two digits are the same as first two digits of X34
- 17 Seventeen times a prime number
- 18 Z30 plus X12
- 19 A square
- 26 Four times a prime number
- 30 X33 minus Y44
- 33 Mean of X46 and Y25
- 41 X27 divided by Z19
- 42 A square

Solution:

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

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