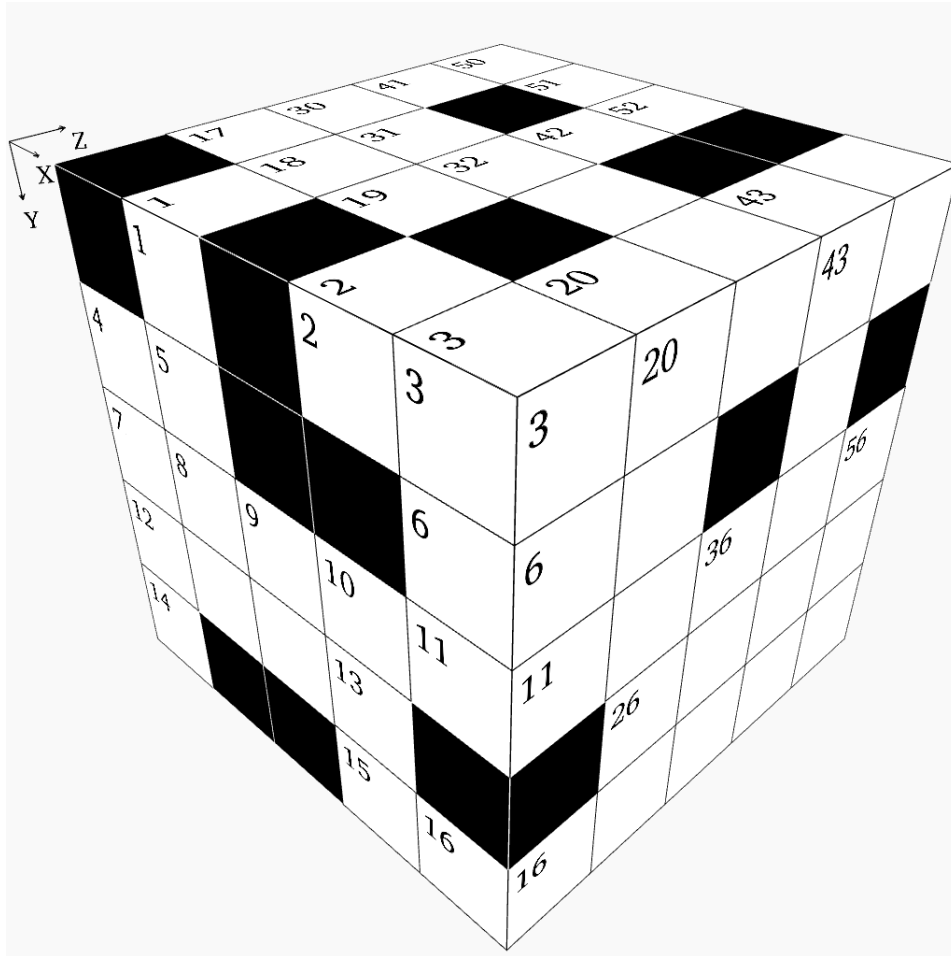


Cube - Challenging Puzzle #49



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

1	2	3	17	18	19	20	30	31	32		
4	5	6	21		22	23		33			
7	8	9	10	11	24				34	35	36
12			13			25	26				
14			15	16	27	28	29		39	40	
41		42		43	50	51	52				
		44	45		53						
46	47				54			55	56		
48					57						
49					58						

X Direction

- 2 X17 divided by Z12
- 4 A square
- 7 Four times a prime number
- 12 Y56 plus X34
- 15 Z48 reversed
- 17 X50 plus X27
- 21 Nineteen times a prime number
- 24 Z13 plus Z1
- 25 X37 divided by Y31
- 27 X12 divided by X4
- 29 Half of X44, then subtract Z40
- 30 Consecutive digits unordered
- 33 Y56 minus X50
- 34 Mean of Y30 and Z40
- 37 Rearranged digits of Z22
- 39 Seventy-four times a prime number
- 44 Eight times a prime number
- 46 Ten thousand eighty-five more than X49
- 48 Y47 times Y10
- 49 Eleven times a square
- 50 Mean of Z12 and X12
- 53 A prime number
- 54 A prime number
- 57 Three times a prime number
- 58 Mean of Y56 and Y31

Y Direction

- 1 Sixty-nine times a prime number
- 3 Y19 reversed
- 4 Thirteen times Y31
- 9 A square
- 10 Sixty-nine times Z12
- 17 Twelve thousand six hundred eighty less than X48
- 18 Y4 minus X50
- 19 Y3 reversed
- 20 Y50 plus half of Z3
- 23 A prime number
- 30 X30 minus X39
- 31 Mean of X15 and Y55
- 32 Z10 minus Z17
- 35 Mean of Y55 and Z26
- 36 Same as X33
- 37 Three times X4
- 41 Thirty-eight times a prime number
- 42 A prime number
- 43 Fourteen thousand nine hundred thirty-two less than Y20
- 45 Fifteen times a prime number
- 47 All digits are the same
- 50 Thirteen thousand one hundred eight less than Y42
- 51 Twenty times a prime number
- 52 Twenty-four times a prime number
- 55 A prime number
- 56 Y35 plus Z6

Z Direction

- 1 Y30 minus X29
- 3 Sixty-two times a prime number
- 4 X57 minus Y51
- 5 Half of X12
- 6 Z48 minus X25
- 7 X7 minus half of X34
- 8 Y19 divided by seventeen
- 9 A prime number
- 10 Six thousand sixty less than X48
- 11 Mean of Z9 and X15
- 12 Z48 minus Y31
- 13 One thousand six hundred sixty-three less than Z3
- 14 Thirty-five times a prime number
- 15 Five times a prime number
- 16 Rearranged digits of Y51
- 17 One thousand two hundred nineteen less than Z15
- 19 Four times a prime number
- 22 X49 minus Y42
- 26 Thirty-three times X25
- 28 Ten times a prime number
- 37 Z5 minus Z40
- 38 Four times Z48
- 40 Fourteen times a prime number
- 47 Y18 divided by twenty-four
- 48 X15 reversed

Solution:

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

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