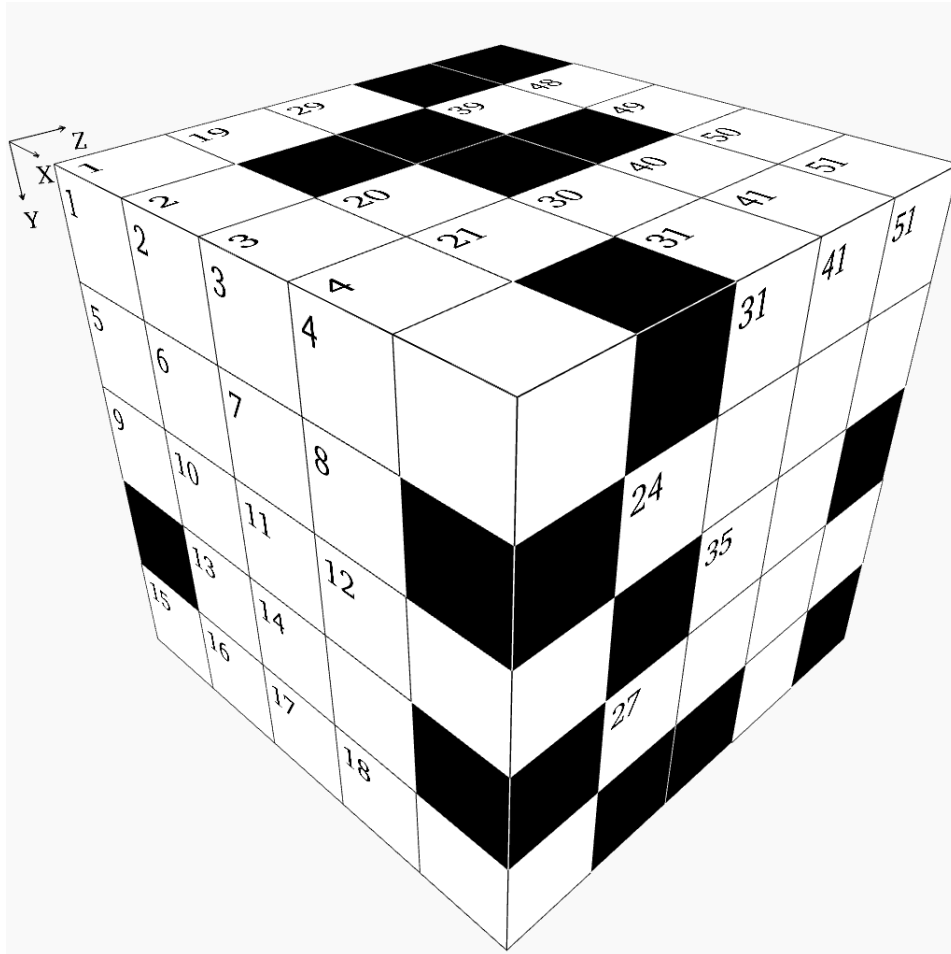


Cube - Hard Puzzle #29



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

	39		40	41		48	49	50	51
42	43				52				
			44		53				
45		46						54	
47							55		

X Direction

- 1 Y46 times Z24
- 5 One thousand seven hundred forty less than Z27
- 9 Half of Z17, then subtract Z14
- 13 Twice a prime number
- 15 Forty-two times a prime number
- 20 Y34 minus Z1
- 22 Z13 times Z39
- 25 Three hundred eighty-seven less than X48
- 26 Mean of Y21 and Z35
- 28 Y41 minus Z26
- 30 Same as Y46
- 32 X38 plus Z43
- 33 Twice the result of Y50 plus Z12
- 36 Thirteen times a prime number
- 38 Z27 divided by Y46
- 40 A square
- 42 Four thousand three hundred twenty less than X36
- 44 Mean of X54 and Z39
- 45 Sixteen thousand eight hundred ninety-two more than Z7
- 47 One hundred twenty-one more than Z37
- 48 One thousand five hundred ninety-five less than Z27
- 52 Six times a prime number
- 53 Twice a prime number
- 54 X38 divided by six
- 55 Mean of Z39 and Z18

Y Direction

- 1 Twice a prime number
- 2 Eleven thousand four hundred forty-eight less than X1
- 3 Twice the result of Z5 minus X42
- 4 X45 minus Z8
- 19 X15 minus half of X20
- 20 Four thousand five hundred twenty-nine more than Z12
- 21 Z1 minus Y45
- 23 Thirty-three times a prime number
- 29 Rearranged digits of Y39
- 30 Twice a prime number
- 31 Seven times a prime number
- 32 Mean of X25 and Y51
- 34 Twenty-seven times a prime number
- 39 Mean of Z7 and Z43
- 40 A prime number
- 41 First, second, and fourth digits are the same
- 45 X47 minus Y48
- 46 X54 minus X30
- 48 Three times a prime number
- 49 Z37 minus X40
- 50 Seventy-six times a prime number
- 51 X30 plus Z18
- 52 Mean of X5 and X53

Z Direction

- 1 A prime number
- 3 Mean of X44 and X13
- 4 Twenty-one times a prime number
- 5 Six times a prime number
- 6 Y21 divided by fourteen
- 7 Forty-three times a prime number
- 8 A prime number
- 9 Mean of Y21 and Z18
- 10 A prime number
- 11 X48 divided by seven
- 12 Fourteen times a prime number
- 13 Twice a prime number
- 14 Twice a prime number
- 15 Two thousand seven hundred thirty-one more than X15
- 16 Twenty-nine times a prime number
- 17 Six thousand three hundred more than X1
- 18 Y51 minus Y46
- 24 X1 divided by X30
- 26 One hundred eighty-one more than Z24
- 27 X30 times X38
- 31 A prime number
- 35 Twice X55
- 37 Consecutive digits unordered
- 39 A square
- 43 Y45 reversed

Solution:

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

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