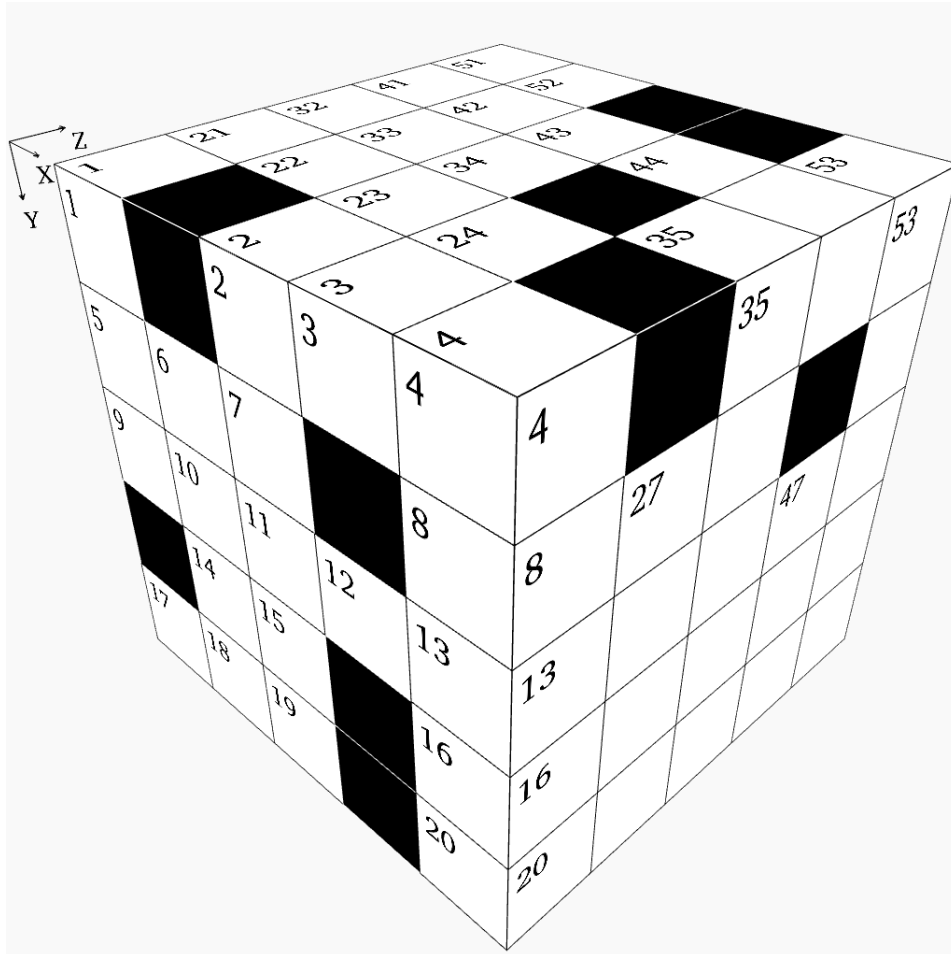


Cube - Hard Puzzle #40



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

41	42	43	44		51	52			53
	45					54	55	56	
46				47		57			
		48				58			
49			50		59				

X Direction

- 2 Mean of X32 and Z8
- 5 Z35 minus Z5
- 9 Eleven thousand two hundred eighty more than Y35
- 14 X45 minus half of Y1
- 17 Z15 minus X59
- 21 Fourteen times a prime number
- 25 Eight thousand one hundred seventy-seven less than X9
- 28 Y2 minus Z17
- 29 Eighteen times a prime number
- 31 Z8 plus X2
- 32 Consecutive digits unordered
- 36 First two digits are the same as first two digits of X54
- 38 Twice a prime number
- 39 Z16 minus Y33
- 40 Mean of Z5 and Y56
- 41 Seventy-four times a prime number
- 45 Twenty-four less than Z5
- 46 Ninety-six times a prime number
- 48 Rearranged digits of Y47
- 49 Thirty-one times Y47
- 51 Z49 plus Y56
- 54 Mean of Z50 and Z22
- 57 Fifty-two times a prime number
- 58 Same as X51
- 59 A prime number

Y Direction

- 1 X5 minus X58
- 2 Eight times a prime number
- 4 Nine thousand nine hundred five less than Y34
- 6 Four hundred eighty-six less than Y43
- 21 Y37 times Z8
- 22 Twice X49
- 23 Twenty-one times a prime number
- 24 Sixteen times a prime number
- 27 Eighteen times a prime number
- 32 Z8 minus Y1
- 33 Three times a prime number
- 34 Forty-nine times a prime number
- 35 Five times a prime number
- 37 X49 divided by seventy-three
- 42 Fifteen times Z49
- 43 Twice a prime number
- 44 Half of Z10, then subtract Y43
- 46 A palindrome
- 47 Y22 divided by Y56
- 52 Y24 plus half of Z13
- 53 A prime number
- 55 A prime number
- 56 X58 minus Z49

Z Direction

- 1 Three thousand three hundred twenty-six more than Z12
- 2 Nine times a prime number
- 3 Mean of X14 and X40
- 5 Mean of Y46 and Y56
- 6 Forty-eight times a prime number
- 7 Y34 minus half of Z1
- 8 X57 minus X38
- 9 Z5 divided by three
- 10 Fourteen thousand twenty-eight more than Y21
- 11 Nine thousand less than Y21
- 12 Three thousand two hundred four more than Y43
- 13 Thirty-two times a prime number
- 14 Twenty-eight times Z49
- 15 Sixty-nine times a prime number
- 16 Four thousand eight hundred forty-eight more than Z10
- 17 Mean of X45 and Z9
- 18 Mean of Y23 and X2
- 19 Three thousand one hundred fifty-nine less than Z18
- 20 X49 minus X54
- 22 Rearranged digits of Y24
- 26 Twice a prime number
- 29 Two-thirds of Y42
- 30 Rearranged digits of Z8
- 35 X48 minus X14
- 49 Y32 minus X14
- 50 Mean of Z3 and X45

Solution:

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

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