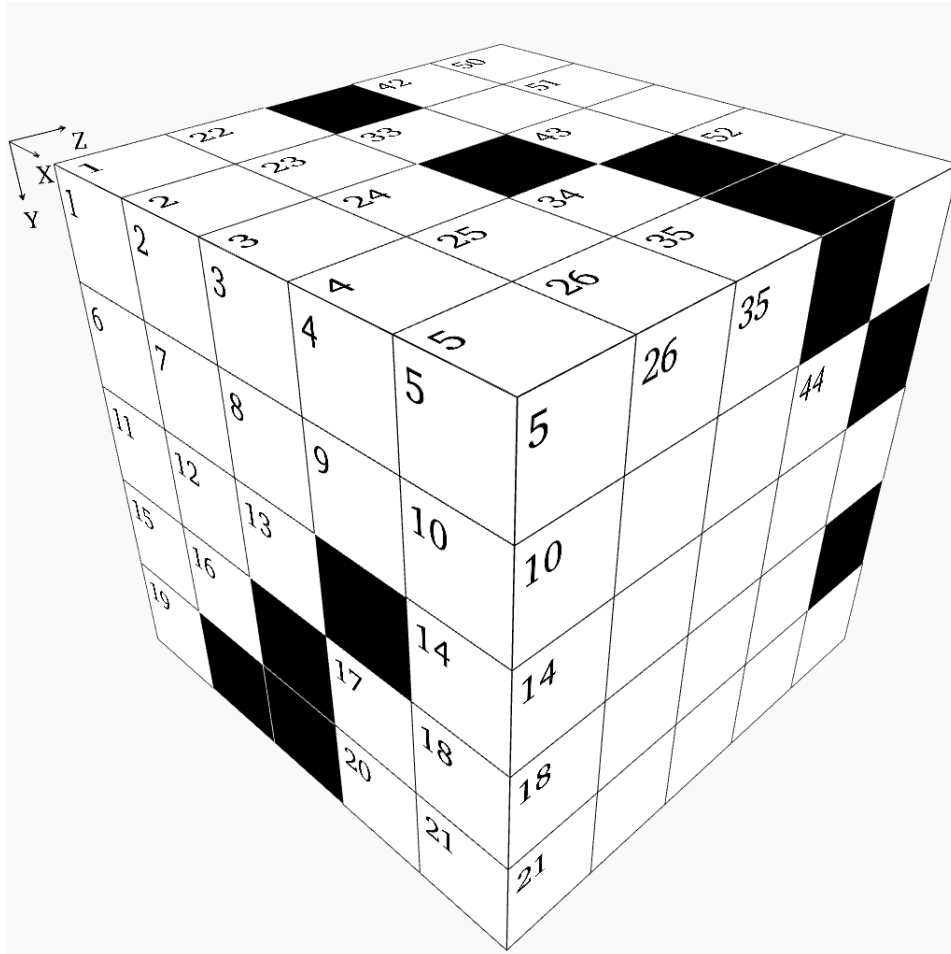


Cube - Hard Puzzle #18



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	5	22	23	24	25	26		33		34	35
6	7	8	9	10	27						36			
11	12	13		14	28					37			38	
15	16		17	18	29					39		40		
19			20	21	30	31	32			41				

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

X Direction

- 1 Twice a prime number
- 6 Twice the result of Y22 plus X29
- 11 Z7 plus X37
- 15 A cube
- 17 Z32 minus Z1
- 20 Z32 plus Z42
- 22 Nine thousand four hundred ninety-two less than Z14
- 27 Y1 plus half of Z19
- 28 Y45 plus X30
- 29 Z4 minus Z40
- 30 Mean of Y24 and Y3
- 34 Y25 plus X15
- 36 A prime number
- 37 Z43 minus X34
- 38 Z43 minus X53
- 39 Y33 plus Y55
- 41 Four times Z6
- 42 X34 plus Z13
- 45 Ninety-three times a prime number
- 48 X11 minus X29
- 49 Three times X53
- 50 A prime number
- 53 Z13 minus X38
- 54 Thirty-six times a prime number
- 56 Twice the result of Z21 minus Y43
- 57 X1 plus Z5

Y Direction

- 1 Z42 plus X57
- 2 Thirty-one times a prime number
- 3 A square
- 4 A square
- 5 Eleven times a prime number
- 17 X20 reversed
- 22 A prime number
- 23 X45 minus Z7
- 24 Y23 divided by ninety-seven
- 25 Z32 minus Z42
- 26 Two thousand six hundred thirty-five less than Z14
- 33 X39 minus X42
- 34 Twice the result of Z18 plus X15
- 35 Ten thousand three hundred forty-three less than Z11
- 37 Nine times X15
- 40 Z42 plus Y25
- 43 Four times a prime number
- 44 Mean of X36 and Z43
- 45 Rearranged digits of Z7
- 46 Twice the result of Y45 minus Y37
- 50 Twice the result of X22 minus Y2
- 51 Mean of X50 and Y52
- 52 Ninety-one times a prime number
- 55 X34 plus Z13

Z Direction

- 1 Mean of Y17 and X38
- 2 Six times a prime number
- 3 Y25 minus Y17
- 4 Z47 plus Z40
- 5 Z3 times X15
- 6 Y40 plus X37
- 7 Z1 times X53
- 8 Twenty times a prime number
- 9 X28 minus Y24
- 10 Eleven times a prime number
- 11 Nineteen times a prime number
- 12 Forty-seven times a prime number
- 13 X34 plus X37
- 14 Half of Y35, then subtract Y17
- 15 Thirty-five times a prime number
- 16 Nineteen thousand five hundred fourteen less than X54
- 18 Four times a prime number
- 19 Rearranged digits of Z14
- 21 Rearranged digits of X27
- 31 Three times a prime number
- 32 Z6 minus X37
- 38 Z4 plus Z42
- 40 Y46 plus Z6
- 42 Z40 divided by thirty-nine
- 43 X42 minus X34
- 47 Mean of Y40 and X49

Solution:

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

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