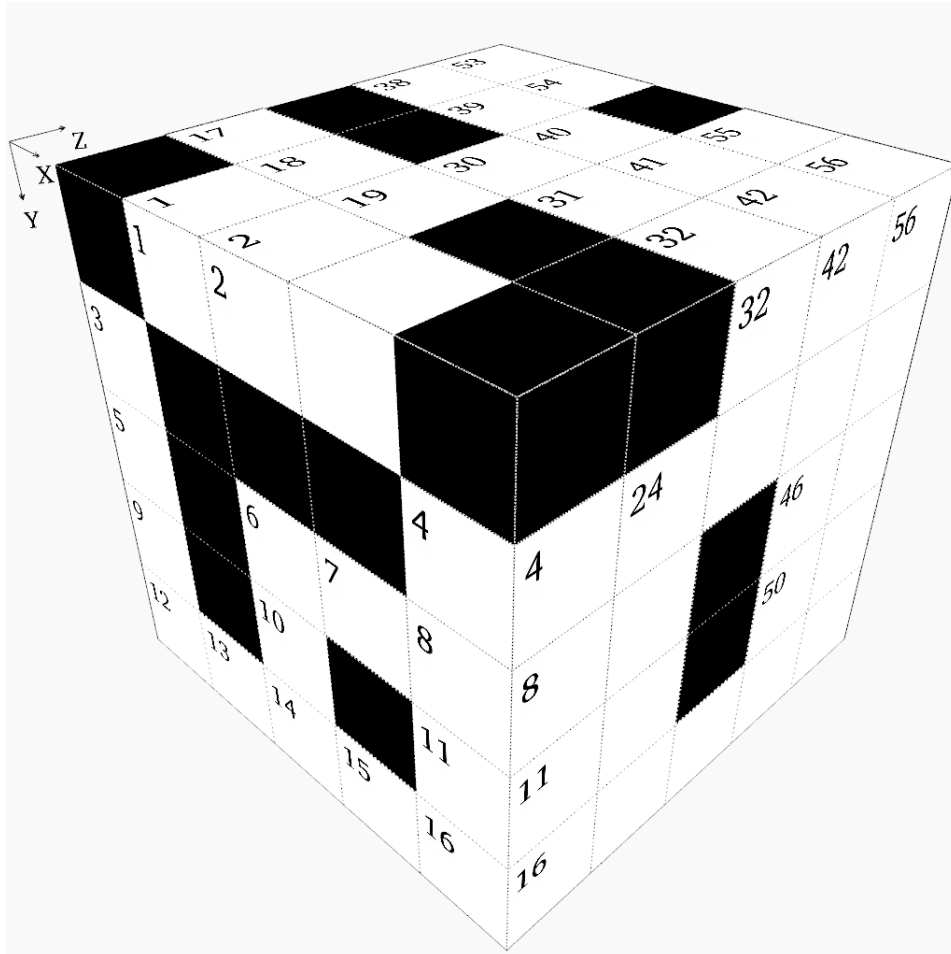


Difficulty: ★★★★★

Cube - Challenging Puzzle #30



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				17	18	19					30	31	32
3					4	20	21	22	23	24		33	34		
5			6	7	8	25	26					35			
9			10		11	27	28					36			
12	13	14	15	16		29								37	

38	39	40	41	42	53	54		55	56
	43					57			
44			45	46	58				
47	48	49		50	59		60	61	
51		52			62				

X Direction

- 1 Z12 plus Y6
- 6 Consecutive digits unordered
- 12 Three times a prime number
- 17 X45 times Z14
- 20 Five thousand eight hundred nineteen more than X38
- 25 Mean of Z13 and X38
- 27 Mean of Y6 and Y55
- 29 Twenty-two times a prime number
- 30 X17 plus Z8
- 33 X25 reversed
- 35 A prime number
- 36 Twenty-nine times a square
- 37 Y48 minus Z39
- 38 Fourteen thousand eight hundred seventy more than X29
- 43 Four times a prime number
- 45 A cube
- 47 A square
- 51 Seventeen thousand six hundred twenty-eight less than Y17
- 53 Mean of Z50 and Z26
- 55 A square
- 57 Ten times a prime number
- 58 Y61 minus Y32
- 59 Eight thousand four hundred twenty-three more than Z9
- 62 Eleven times X17

Y Direction

- 3 Forty-nine times a prime number
- 4 X62 minus half of X43
- 6 Z6 minus X45
- 17 Twenty-two times a prime number
- 18 X6 times Z38
- 19 Last two digits are the same as last two digits of Z32
- 23 Z1 minus Y55
- 24 One thousand two hundred seventy-four less than X57
- 30 Z28 minus Y48
- 31 Z5 plus Z22
- 32 A square
- 33 Z31 minus X37
- 34 Fifteen times a prime number
- 39 X55 plus Y40
- 40 Mean of Y60 and X58
- 41 Z1 plus Y40
- 42 Six times a prime number
- 44 Mean of Z50 and X6
- 48 X37 plus Z50
- 49 Three-fourths of Z26
- 54 Twice the result of Z16 minus X20
- 55 Z52 minus Z1
- 56 Z31 plus half of Y17
- 58 Mean of Z1 and Y44
- 60 Y40 plus Y23
- 61 X1 minus Z6

Z Direction

- 1 A square
- 2 Twice the result of X33 minus Z15
- 3 Twice the result of Y44 plus Z12
- 4 Sixty times a prime number
- 5 A prime number
- 6 Ten times a prime number
- 7 Sixty-four times a prime number
- 8 Mean of Y49 and X45
- 9 X30 times Y60
- 10 Nineteen thousand nine hundred twenty-eight less than X33
- 11 A square
- 12 Mean of Y49 and Y60
- 13 A square
- 14 Y60 minus Z8
- 15 A prime number
- 16 Forty-five times a prime number
- 21 Twenty-seven times a prime number
- 22 Twenty times a prime number
- 23 A prime number
- 26 Mean of Z50 and Y41
- 28 First two digits are the same as first two digits of X30
- 31 Nineteen times Z8
- 32 Y6 reversed
- 38 Mean of Y39 and Y60
- 39 Twice Y32
- 46 Y48 minus X37
- 50 Twice Y32
- 51 A square
- 52 Y58 minus half of X47

Solution:

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

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