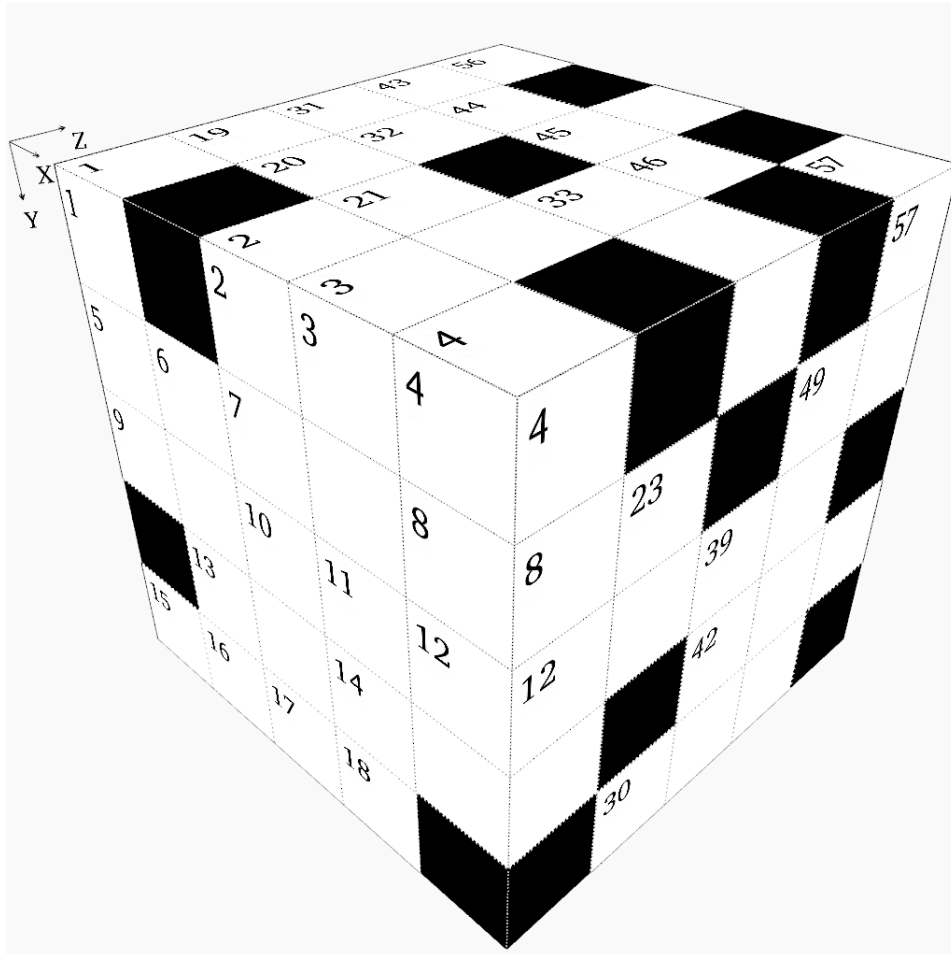


Difficulty: ★★★★★

Cube - Challenging Puzzle #7



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			31	32		33	
5	6	7		8		22			23	34		35		
9		10	11	12	24		25	26		36	37		38	39
	13		14		27	28				40			41	42
15	16	17	18		29				30					

43	44	45	46		56				57
47			48	49	58	59		60	
50									
51		52			61		62		
53	54		55		63				

X Direction

- 2 Forty-three times Y23
- 5 First two digits are the same as first two digits of Z37
- 9 Ninety-six times a prime number
- 13 Z14 divided by X41
- 15 A prime number
- 19 X9 divided by Z45
- 22 Y23 plus Z45
- 25 Y35 plus Z52
- 27 Y45 minus X53
- 29 Four times a prime number
- 31 Mean of Y23 and Z45
- 33 A cube
- 34 Z42 minus X31
- 36 Sixteen times a prime number
- 40 Z30 minus Y39
- 41 Z16 minus X60
- 43 Y6 minus Y26
- 47 One thousand five hundred ninety-five less than X9
- 50 Five hundred four more than Y3
- 51 Last two digits are the same as Y38
- 53 Thirty times a prime number
- 58 Twice the result of Y56 minus Y57
- 60 A square
- 61 Fifteen thousand six hundred fifty-one more than Y46
- 63 Fifteen times a prime number

Y Direction

- 1 Y62 plus Y38
- 2 Six times a prime number
- 3 A prime number
- 4 Sixty-eight times a prime number
- 6 X50 minus half of X61
- 20 Z14 divided by X13
- 21 Half of X29, then subtract Y44
- 23 Mean of Y56 and X31
- 24 X15 minus half of Z9
- 26 Y57 plus Z42
- 28 Mean of Z8 and Z2
- 31 Twelve times a prime number
- 32 Thirty-three times a prime number
- 35 Z8 minus X60
- 38 Y28 minus X58
- 39 Y21 minus X58
- 43 One thousand nine hundred more than Z6
- 44 Fifty-three times a prime number
- 45 Five thousand eight hundred eighty-eight less than X36
- 46 X47 plus Y1
- 49 Ten times a prime number
- 56 Y61 divided by four
- 57 Mean of X58 and X27
- 59 Z7 plus X2
- 60 Twenty-five times a prime number
- 61 Mean of Z18 and Z55
- 62 Y20 minus Y57

Z Direction

- 1 Mean of Y31 and Z2
- 2 Y56 plus Z55
- 3 X63 plus half of X25
- 6 A palindrome
- 7 Mean of Y1 and Z10
- 8 Mean of Y28 and Z55
- 9 Sixty-two times a prime number
- 10 Mean of Y32 and Y60
- 11 Six thousand nine hundred eighteen more than X53
- 12 A prime number
- 13 Six times a square
- 14 Eleven thousand five hundred thirty less than Y2
- 15 Eighty-eight times a prime number
- 16 Z49 plus Y61
- 17 X51 minus half of X36
- 18 Z55 plus X27
- 20 Z30 plus X40
- 27 Eight times a prime number
- 30 Y39 plus half of Z8
- 34 A prime number
- 37 Twice a prime number
- 42 Y26 minus Z49
- 45 Mean of X31 and X60
- 48 Z16 minus Y35
- 49 Half of X41, then subtract Y23
- 52 Mean of X41 and Z2
- 54 Z52 minus X58
- 55 Mean of Z18 and Y35

Solution:

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

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