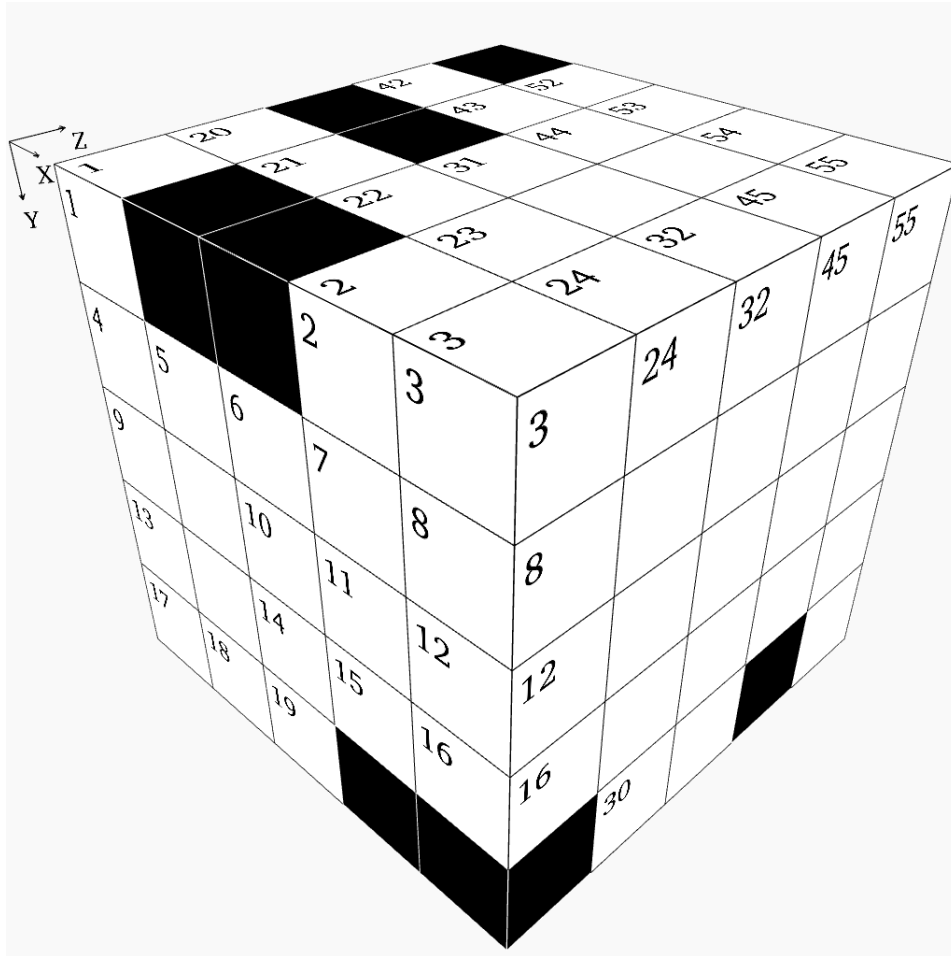


Cube - Hard Puzzle #33



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	20	21	22	23	24			31		32
4	5	6	7	8				25		33	34			
9		10	11	12				26		35	36	37	38	
13		14	15	16				27		39	40			
17	18	19			28			29	30	41				

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

X Direction

- 2 Y60 plus Z43
- 4 Fifteen thousand five hundred eighty-two less than Z14
- 9 Nineteen thousand eight hundred fifteen less than X13
- 13 Rearranged digits of Z18
- 17 Z36 plus Y26
- 20 Mean of X13 and Y34
- 25 A cube
- 26 Eight times Y21
- 27 Mean of Y49 and Z39
- 28 Seventy-eight times a prime number
- 31 X51 minus Y48
- 33 X61 minus Z1
- 35 Eleven thousand two hundred ninety-seven more than Z19
- 39 Twice the result of X41 plus Z16
- 41 A prime number
- 42 X56 plus half of Y24
- 47 Seventy-three times a prime number
- 50 Twenty-three times a prime number
- 51 Sixty-nine times Y57
- 52 Nine times a prime number
- 56 Four times a prime number
- 58 A cube
- 59 Eight thousand thirty-nine more than X28
- 61 Z7 plus Y57

Y Direction

- 1 A prime number
- 2 Five times a prime number
- 3 Y42 plus Z46
- 5 Mean of Y45 and Y49
- 6 Consecutive digits unordered
- 21 Sum of digits in Y6
- 23 X59 minus half of Z1
- 24 Four thousand eighty-nine more than Z10
- 26 X35 divided by X17
- 32 Seventy-nine times a prime number
- 33 A palindrome
- 34 Twenty-five times a prime number
- 37 Z39 minus X25
- 38 Z39 minus X33
- 42 Eighty-five times a prime number
- 44 Mean of Z14 and Z36
- 45 Nine hundred eighty-six less than Y42
- 48 Eight times a prime number
- 49 Consecutive digits unordered
- 52 Y21 plus Z36
- 53 Three thousand five hundred eighty-four more than Z11
- 54 Five times a prime number
- 55 Mean of X28 and Z7
- 57 Z19 divided by Y54
- 60 A cube

Z Direction

- 1 A square
- 2 One thousand eight hundred eighty-two less than X9
- 3 Seven times a prime number
- 5 Mean of X17 and Z1
- 7 Z29 minus X2
- 8 Sixty-four times a prime number
- 10 Five times a prime number
- 11 A prime number
- 12 Twice the result of Z11 plus Y42
- 14 Six thousand four hundred fifty-one less than Z19
- 15 Fifteen times a prime number
- 16 A prime number
- 17 Consecutive digits in descending order
- 18 Y32 minus X4
- 19 Sixty-five times a prime number
- 22 A prime number
- 29 A prime number
- 30 A square
- 33 Z39 minus Y38
- 35 Y52 plus X51
- 36 X2 minus Z33
- 39 Y37 plus Y60
- 40 X31 minus Z29
- 43 Mean of X2 and X33
- 46 X17 minus X26

Solution:

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

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