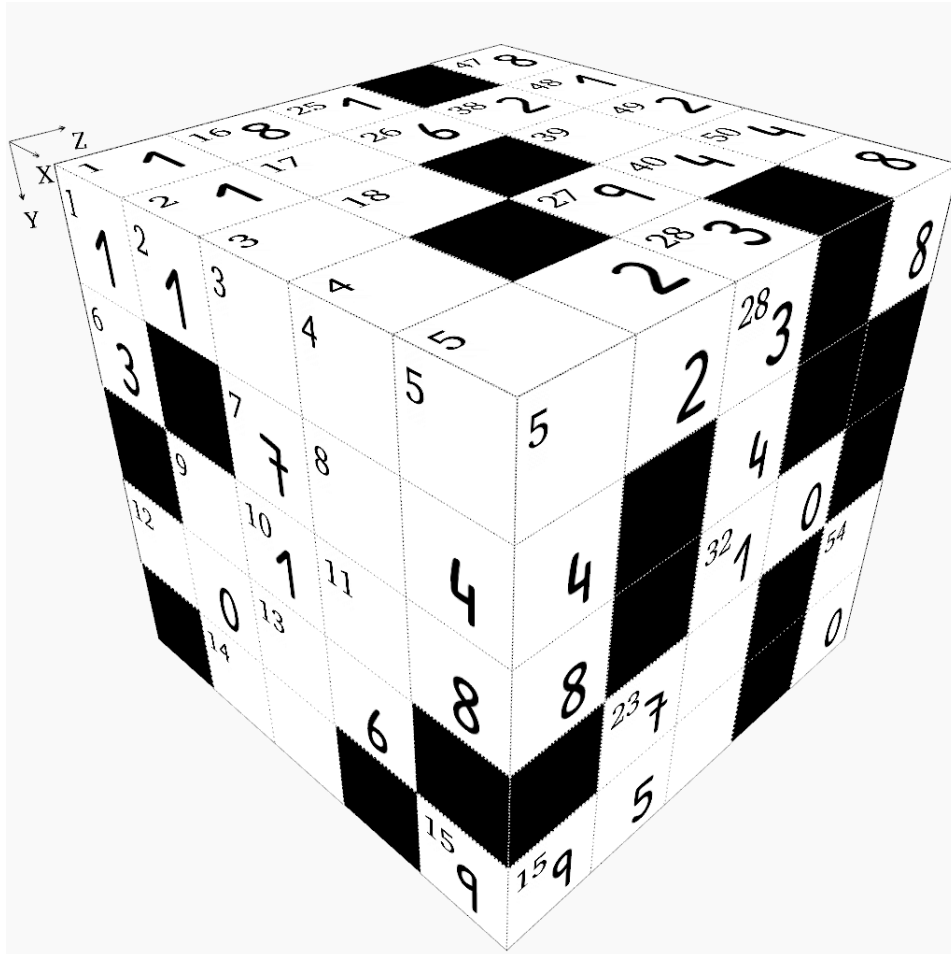


Difficulty: ☆☆☆☆☆

Cube - Beginner Puzzle #31



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 1	2 1	3	4	5	16 8	17	18		2	25 1	26 6		27 9	28 3
6 3		7 7	8	4	19 5	20 8	9	21		29 9		30 6		4
	9	10 1	11	8	22 5			3		31 1		7	8	32 1
12		13	6						23 7	33	34	7	35 7	
	14			15 9				24 6	5	36		37		

	38 2	39	40 4		47 8	48 1	49 2	50 4	8
41					51 9		3	8	
6			42 1	0	52 2				
43 8	44 8	45 2				53 5	1	54	
46 4					55 0		56 0		

X Direction

- 1 Two thousand three hundred seventy-eight more than Z20
- 7 A square
- 9 Eighty-six times a prime number
- 12 X41 minus Z34
- 14 Half of Z36, then subtract Y5
- 16 Z13 minus Y27
- 19 Forty-three times Z10
- 22 Three times a prime number
- 24 Y23 minus X42
- 25 A square
- 27 X55 plus Y21
- 29 Eighteen thousand nine hundred seventy-one more than Z7
- 31 Thirty-nine times a prime number
- 33 Z6 plus X7
- 36 Seventy-eight times a prime number
- 38 Mean of Y5 and X55
- 41 Mean of Y9 and Z2
- 42 Y45 minus Z39
- 43 Eighty-one times a prime number
- 46 Ninety-one times a prime number
- 47 Thirty-two times a prime number
- 51 Thirty-eight times a prime number
- 52 Half of Y28, then subtract X31
- 53 X22 minus half of Y4
- 55 Five times Y39
- 56 Mean of Y23 and X24

Y Direction

- 1 X27 minus X55
- 3 Twelve times a prime number
- 4 One thousand twenty-one more than Z20
- 5 Mean of X53 and Z1
- 9 Seven times a prime number
- 16 Forty-five times a prime number
- 17 Mean of X38 and Z15
- 18 Twice a prime number
- 21 Y44 minus Y23
- 23 Z32 plus X24
- 25 Fourteen times a prime number
- 26 Twice a prime number
- 27 A prime number
- 28 Six times a prime number
- 30 A prime number
- 38 Z39 reversed
- 39 A square
- 40 Mean of X47 and X9
- 41 X51 minus X16
- 44 X12 divided by Z37
- 45 Y44 divided by four
- 47 Last two digits are the same as last two digits of X9
- 48 Twice X14
- 49 Forty-five times a prime number
- 50 Sixty-one times a prime number
- 54 Five times X42

Z Direction

- 1 Mean of Y5 and Z3
- 2 First two digits are the same as first two digits of Y48
- 3 X56 divided by five
- 5 Z24 divided by nineteen
- 6 Two thousand one hundred seventy-three more than Z11
- 7 Fourteen thousand two hundred eight less than Y27
- 8 Y30 times Z39
- 9 Eight times X27
- 10 Mean of X27 and Z1
- 11 Twenty-four times a prime number
- 13 Three thousand nine hundred nine less than X29
- 14 Eighty times a prime number
- 15 Z32 plus Z27
- 20 X43 minus Z3
- 22 Fifty-eight times a prime number
- 23 Y17 divided by eight
- 24 Seventeen times a square
- 27 Fifty-nine times X25
- 32 Y45 minus Z39
- 33 Z7 minus Z14
- 34 X55 minus Z39
- 35 Seven times a prime number
- 36 Fifty-three times X25
- 37 X55 plus Z39
- 39 Z9 divided by sixty-two

Solution:

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

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