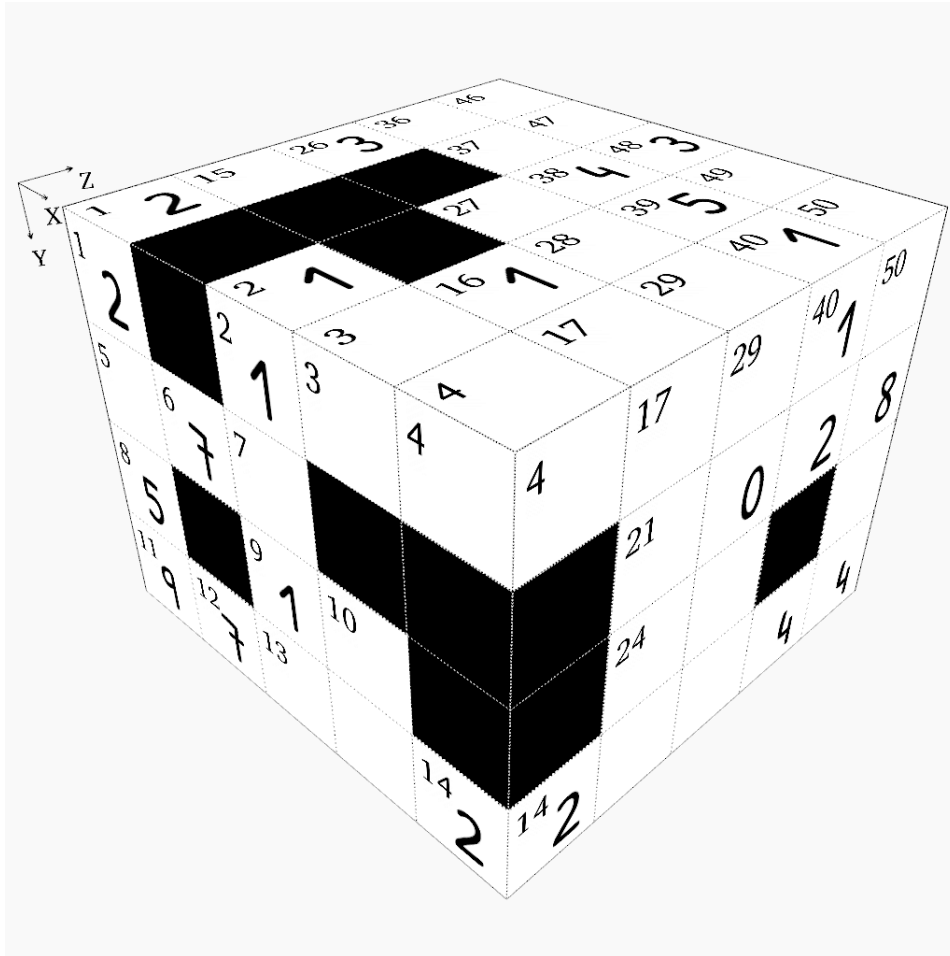


Difficulty: ☆☆☆☆☆

Box - Beginner Puzzle #37



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 box pictured above and divide it into individual X-Y layers, we will get these planes:

1 2		2 1	3	4	15			16 1	17	26 3		27	28	29
5	6 7	7			18	19 4		20	21	30 1	31		3 0	
8 5		9 1	10		22	23 8			24	32 7	5	33		
11 9	12 7	13		14 2	25 6	0	9			34 1			35 7	
36	37	38 4	39 5	40 1	46	47	48 3	49	50					
4		41 6	6	2	51 8		4	6	8					
42	43 1		44 7		52		8	0						
45			0	4	53 9		0	4	4					

X Direction

- 2 Y17 divided by twenty-four
- 5 Twice a prime number
- 9 Z33 minus X27
- 11 Z7 plus Y27
- 16 Y10 divided by eight
- 18 Three thousand ninety-three more than X45
- 22 Z44 minus X16
- 25 Twenty-one times a prime number
- 27 Z33 minus Y16
- 30 Seventy-three more than Z3
- 32 Thirty-three times Y28
- 34 Fifty-six times a prime number
- 36 A prime number
- 41 Twice a prime number
- 42 Five hundred one less than Y38
- 45 Y40 times Y2
- 46 Twenty thousand seven hundred fifty-five less than Z11
- 51 Nineteen thousand seventeen more than X36
- 52 A square
- 53 Forty-four times a prime number

Y Direction

- 1 Seventeen times a prime number
- 2 X45 divided by X16
- 10 X2 minus Y16
- 15 Eight times a prime number
- 16 Same as X9
- 17 Forty-six times Z24
- 19 Mean of Z33 and Y40
- 26 Twenty-one times a prime number
- 27 Seventy-four times a prime number
- 28 Z1 divided by X27
- 29 Half of Z8, then subtract X34
- 31 Z33 divided by six
- 36 Twice a prime number
- 38 Fifty-six times a prime number
- 39 Eighty-one times Z44
- 40 Y28 minus Y43
- 43 Y28 minus X16
- 46 One thousand four hundred forty-seven more than Y36
- 47 Y38 plus Z6
- 48 X22 times Z24
- 49 Y17 plus Y50
- 50 Twenty-eight times a prime number

Z Direction

- 1 Twenty-three times a prime number
- 3 A prime number
- 4 Six times a prime number
- 5 Four times a prime number
- 6 Thirty-nine times Y16
- 7 Rearranged digits of X51
- 8 Two thousand eight hundred thirty-four more than Z4
- 11 Ninety-nine times a prime number
- 12 First two digits are the same as first two digits of Z21
- 13 Forty times a prime number
- 14 One thousand one hundred twenty-three less than Z1
- 20 Forty-two times a prime number
- 21 Twenty-eight times a prime number
- 23 Twice the result of Z5 minus Y46
- 24 Five times Y40
- 27 Forty-one times Y28
- 33 X45 divided by Y28
- 35 Sixty-four times Y43
- 37 X2 minus Z44
- 44 Y40 plus X22

Solution:

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

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