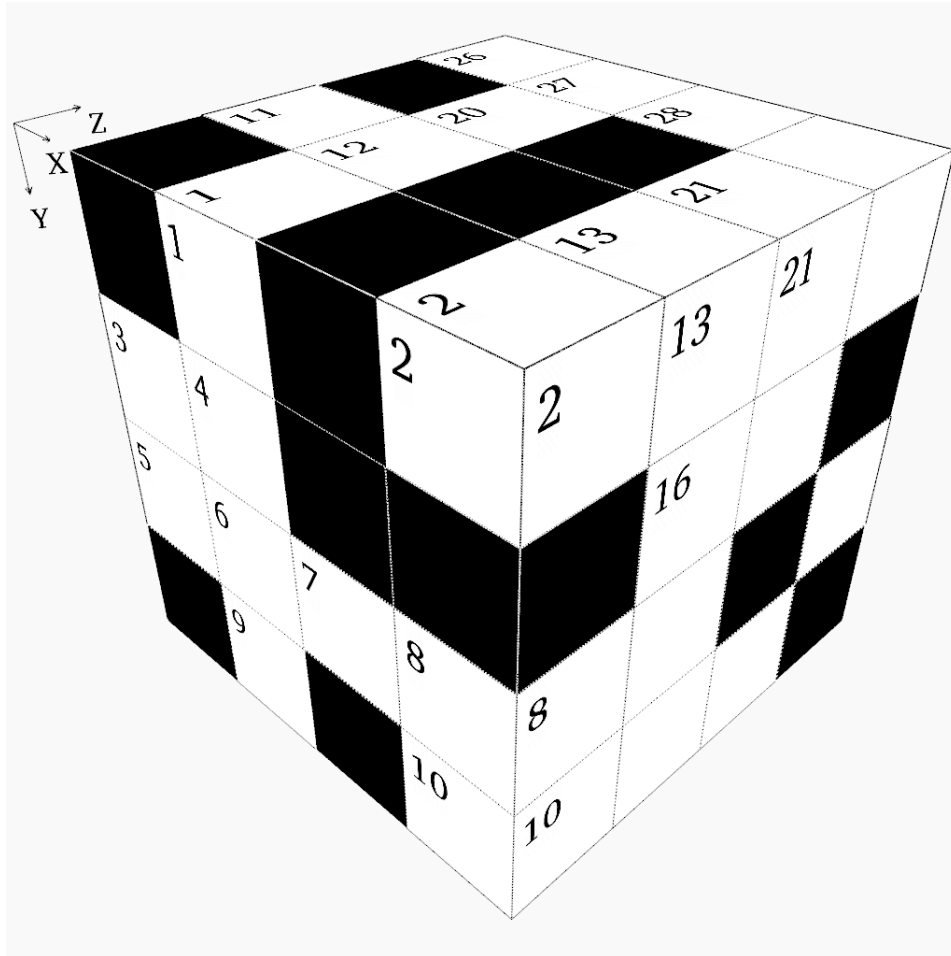


Difficulty: ☆☆☆☆☆

## Cube - Beginner Puzzle #39



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                                                                                 | 11                                                                                | 12       |  | 13 |  | 20 |  | 21                                                                                  | 26                                                                                  | 27       | 28                                                                                  |                                                                                     |
| 3                                                                                 | 4 |  |  |  | 14       | 15                                                                                | 16 | 22                                                                                |    | 23                                                                                |                                                                                     | 29                                                                                  | <b>6</b> |                                                                                     |  |
| 5                                                                                 | 6 | 7                                                                                 | 8                                                                                 | 17                                                                                |          |                                                                                   |    | 24                                                                                |    |                                                                                   |  | 30                                                                                  |          |                                                                                     |                                                                                     |
|  | 9 |  | 10                                                                                | 18                                                                                | <b>7</b> | 19                                                                                |    | 25                                                                                |    |                                                                                   |                                                                                     |  |          |  |  |

### X Direction

- 3** Y12 divided by X29
- 5** Nine times a prime number
- 11** Twice Z19
- 14** Y26 plus X11
- 17** X25 plus Z19
- 18** First two digits are the same as Y17
- 22** Twenty-nine times a square
- 24** Eleven times Z8
- 25** X18 plus half of Z10
- 26** A prime number
- 29** A square
- 30** Five times a prime number

### Y Direction

- 1** Four hundred nineteen less than Z9
- 3** X5 minus Z5
- 8** Y20 minus Y13
- 12** A cube
- 13** Three hundred thirteen less than Z6
- 15** Nineteen times a prime number
- 17** Z16 plus X3
- 20** Y13 plus Y21
- 21** Same as Y8
- 22** Eleven times a prime number
- 23** Mean of X3 and Z2
- 26** Six times a prime number
- 27** Twenty-one times a prime number
- 28** Forty-five times a prime number

### Z Direction

- 1** Half of X17, then subtract Z2
- 2** X22 minus Z7
- 4** Twice a prime number
- 5** Forty-nine more than Y13
- 6** Twice the result of X30 minus Y23
- 7** Sixty-five times a prime number
- 8** A square
- 9** Half of X22, then subtract Z22
- 10** Twice a square
- 15** Twenty-three more than Y23
- 16** A square
- 18** X3 plus Z16
- 19** A square
- 22** Three times Y3

## Solution:

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