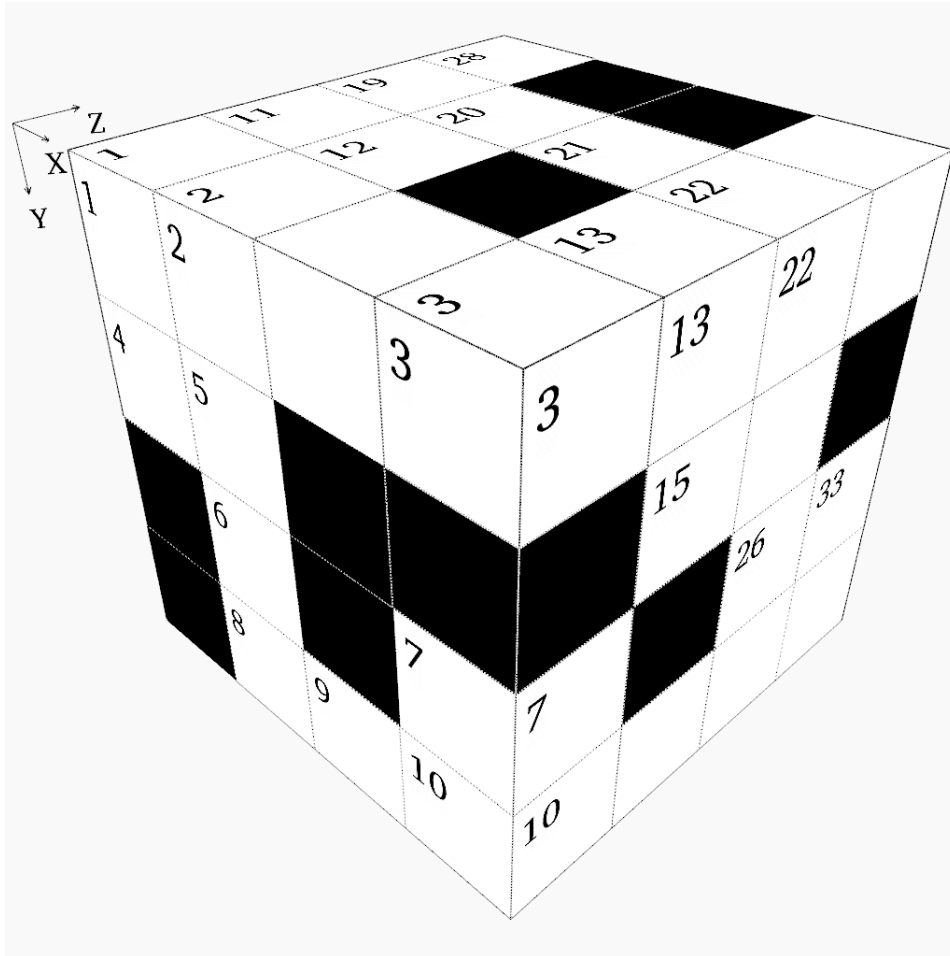


Difficulty: ★★☆☆☆

## Cube - Challenging Puzzle #47



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

### X Direction

- 1 Consecutive digits unordered
- 4 Z1 divided by X14
- 8 Y7 squared
- 11 Mean of Z26 and Y30
- 14 Y17 plus Z24
- 16 X32 minus Y21
- 18 X14 plus X29
- 19 Four times a prime number
- 23 Y30 times Y17
- 25 A prime number
- 27 Eight times X34
- 29 X18 minus Z15
- 32 Twice a prime number
- 34 X8 minus Y30

### Y Direction

- 1 Same as Y33
- 2 Seventeen times a prime number
- 7 X16 divided by sixty-six
- 11 X25 plus X19
- 12 Sixty times Y13
- 13 A prime number
- 17 Y30 plus Y1
- 19 A prime number
- 20 Y30 plus X23
- 21 A square
- 22 X19 minus X23
- 28 Y2 minus X25
- 30 Y17 minus Y33
- 31 Mean of X25 and Z24
- 33 Z8 minus X34

### Z Direction

- 1 Z15 times X4
- 2 X1 minus half of Z3
- 3 Thirty-seven times Z8
- 4 Thirty-three times a prime number
- 5 Twenty-seven times a prime number
- 6 Thirty-eight times a prime number
- 8 Y1 plus X34
- 9 Y22 minus X16
- 10 A prime number
- 15 Same as X14
- 16 Nine times a prime number
- 17 Fourteen times a prime number
- 24 Half of X4
- 26 Mean of Z8 and X14

## Solution:

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