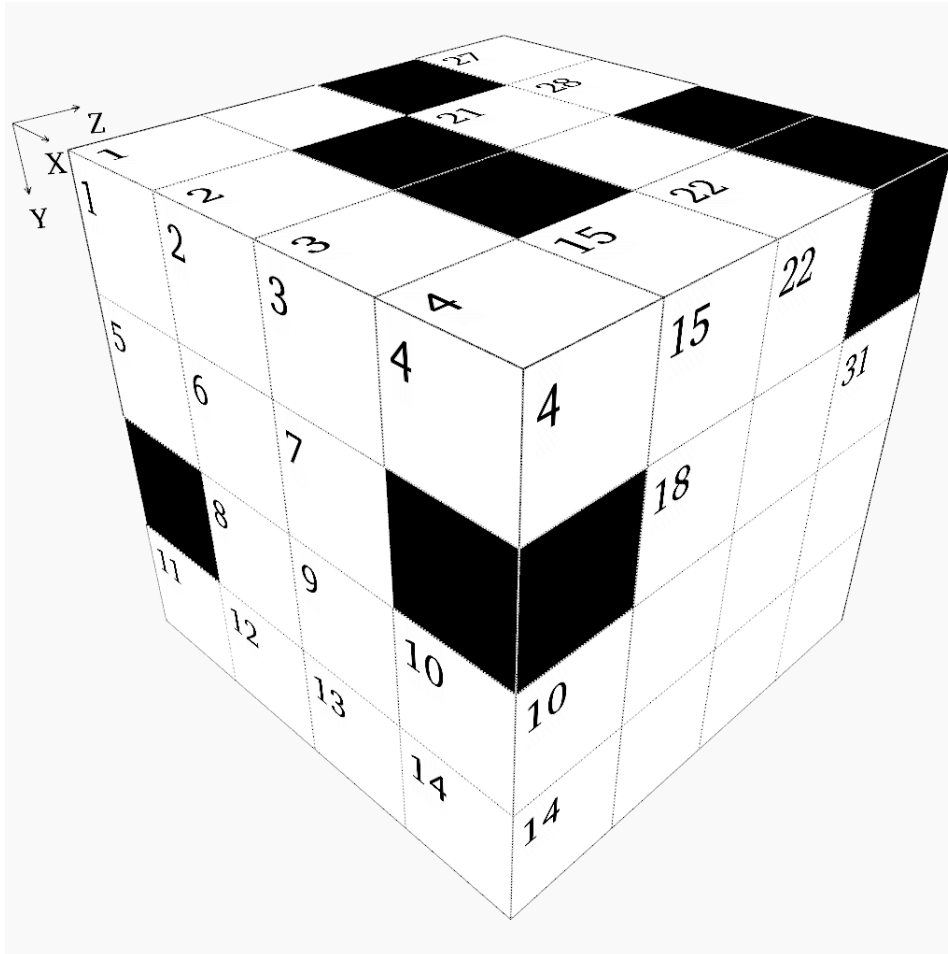


Difficulty: ★★☆☆☆

## Cube - Challenging 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  | 3  | 4  |    |    |    | 15 |    | 21 |    | 22 | 27 | 28 |    |    |
| 5  | 6  | 7  |    |    | 16 | 17 | 18 | 23 |    |    |    | 29 |    | 30 | 31 |
|    | 8  | 9  | 10 |    | 19 |    |    | 24 |    | 25 |    |    | 32 |    |    |
| 11 | 12 | 13 | 14 | 20 |    |    |    |    |    | 26 |    |    |    | 33 |    |

### X Direction

- 1 Y31 times Y25
- 5 Nine times a prime number
- 8 X23 plus Z7
- 11 Mean of Z6 and Y15
- 16 Y16 minus Z7
- 19 X32 plus Z1
- 20 Twenty times a prime number
- 21 Y25 times Z7
- 23 Y1 plus Z7
- 24 Sixteen times a prime number
- 26 Y1 reversed
- 27 Same as Y10
- 29 Twice a prime number
- 32 Fifty-three times Z7
- 33 Mean of Z23 and Z7

### Y Direction

- 1 X20 minus X5
- 2 Two hundred forty-six more than Z6
- 3 Z11 minus Y28
- 10 Y1 minus Z12
- 15 Ninety times a prime number
- 16 Rearranged digits of Y30
- 17 Mean of X19 and X16
- 21 Z4 reversed
- 22 Mean of Z13 and Y10
- 23 Z8 minus X19
- 25 X26 minus Z1
- 27 A prime number
- 28 Twenty-three times a prime number
- 30 X29 minus Y28
- 31 X21 plus Z23

### Z Direction

- 1 Y2 divided by X8
- 4 Z7 times Y10
- 6 One thousand forty-eight less than X24
- 7 Z4 divided by X27
- 8 Eleven times a prime number
- 9 Ninety times Y25
- 10 Seventeen times a prime number
- 11 Twenty-two times X21
- 12 Y1 minus Z21
- 13 Ninety-five times a square
- 14 Twenty-six times a prime number
- 18 Four times X23
- 21 Z4 divided by Z7
- 23 Y25 reversed

## Solution:

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