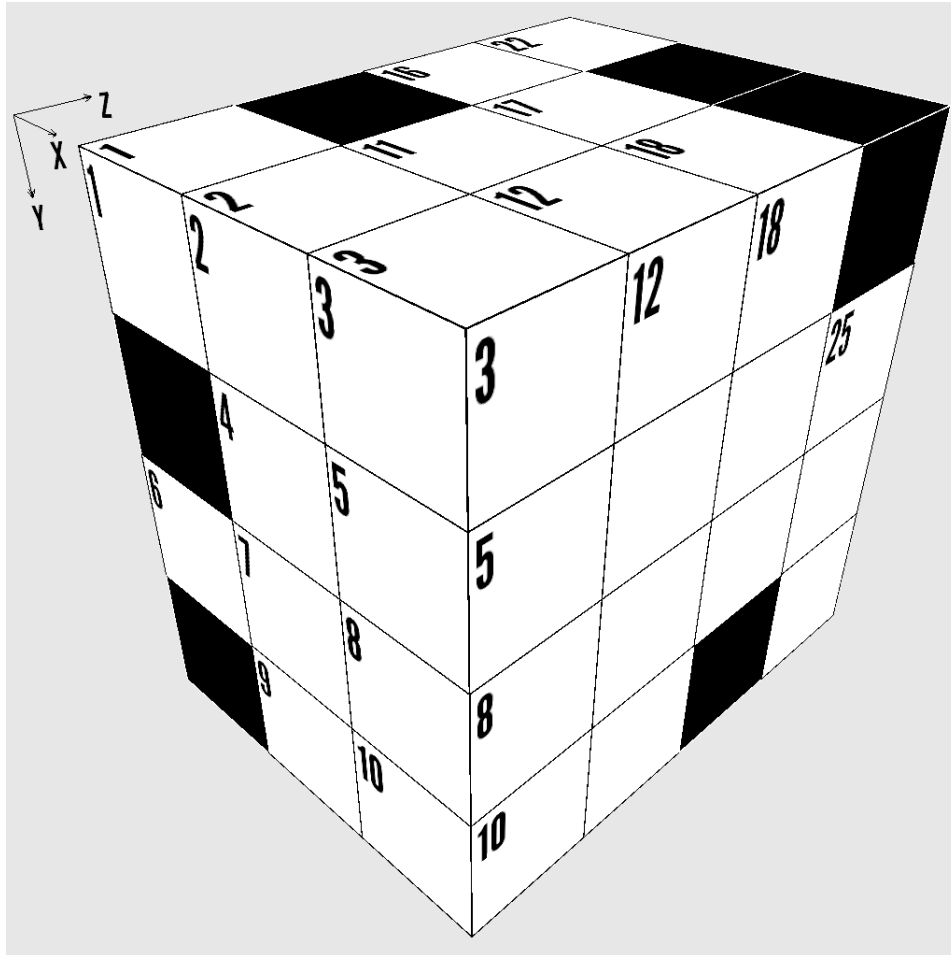


Difficulty: ★★☆☆☆

## 3D Math Puzzle - 3x4x4 Box 21



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" read from:
  - a. X Direction: Left to right
  - b. Y Direction: Top to bottom
  - c. Z Direction: Front to back
3. There is one unique solution which satisfies all the clues given below.
4. 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 | 16 | 17 | 18 | 22 |    |    |
|   | 4 | 5  | 13 |    |    | 19 |    |    | 23 | 24 | 25 |
| 6 | 7 | 8  | 14 |    |    | 20 |    |    | 26 |    |    |
|   | 9 | 10 | 15 |    |    | 21 |    |    | 27 |    |    |

**Clues:**

**X Direction**

- 1 Seventeen times a prime number
- 4 Sum of the digits of Y11
- 6 X26 plus Z15
- 9 Is a prime number
- 11 Digits are the same as first two digits of Y11
- 13 Twice a prime number
- 14 Last two digits are the same as last two digits of X27
- 15 First two digits are the same as first two digits of Y13
- 16 Six times a square
- 19 Three times X23
- 20 X21 plus Z2
- 21 Digits are in consecutive descending order
- 23 Digits are in consecutive order
- 26 Rearranged digits of Y25
- 27 Thirty times a prime number

**Y Direction**

- 2 Is a prime number
- 3 Y22 minus X26
- 11 First two digits are the same as first two digits of Z5
- 12 Last two digits are the same as last two digits of Y24
- 13 X4 plus Y18
- 16 Twice a square
- 17 Z7 minus X6
- 18 First two digits are the same as first two digits of Y22
- 22 Twenty-two times a prime number
- 24 First two digits are the same as first two digits of Z8
- 25 Last two digits are the same as last two digits of Z7

**Z Direction**

- 2 Is a square
- 3 Thirteen times X4
- 4 Nineteen times a prime number
- 5 First two digits are the same as X11
- 6 Last two digits are the same as last two digits of X23
- 7 First two digits are the same as Z10
- 8 Is a prime number
- 9 Last two digits are the same as X9
- 10 All digits are the same
- 13 First two digits are the same as first two digits of Y25
- 15 Last two digits are the same as X11
- 16 Digits are the same as last two digits of Z5

**Solution is on next page**

Solution:

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