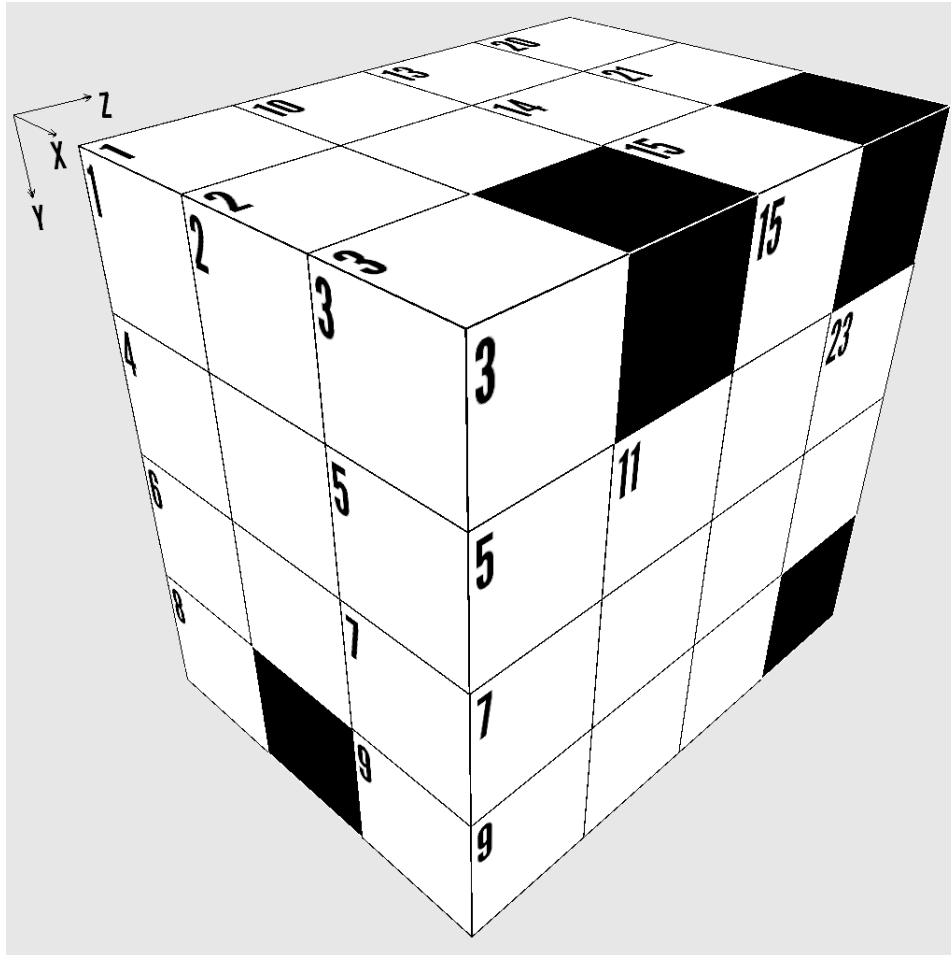


Difficulty: ★★☆☆☆

## 3D Math Puzzle - 3x4x4 Box 10



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 | 10 |  |    | 13 | 14 | 15 | 20 | 21 |    |
| 4 |   | 5 |    |  | 11 | 16 | 17 |    | 22 |    | 23 |
| 6 |   | 7 |    |  |    | 18 | 19 |    | 24 |    |    |
| 8 |   | 9 | 12 |  |    |    |    |    | 25 |    |    |

**Clues:**

**X Direction**

- 1 Last two digits are the same as last two digits of X13
- 4 First two digits are the same as first two digits of Y2
- 6 Digits are the same as first three digits of Z6
- 10 Digits are the same as last two digits of X16
- 12 Is a square
- 13 Is a prime number
- 16 Last two digits are the same as last two digits of Z7
- 18 Half of X22
- 20 Average of X25 and Y23
- 22 Twice Y14
- 24 Three times X12
- 25 Digits are the same as first two digits of X1

**Y Direction**

- 1 First two digits are the same as first two digits of X1
- 2 Average of X10 and Z9
- 3 Last two digits are the same as last two digits of Y1
- 10 Is a prime number
- 11 Last two digits are the same as last two digits of Y13
- 13 Sixty-four times Y23
- 14 Same as X18
- 15 First two digits are the same as first two digits of X12
- 20 Is a prime number
- 21 Two thousand nine hundred sixty-nine less than Y10
- 23 X24 minus Y11

**Z Direction**

- 1 First two digits are the same as Z17
- 2 Twice a prime number
- 4 X25 plus Z6
- 5 Z8 plus Z17
- 6 Seven times a prime number
- 7 Last two digits are the same as X10
- 8 Rearranged digits of Y15
- 9 Four times a prime number
- 17 Digits are the same as last two digits of X18
- 19 Same as X10

**Solution is on next page**

Solution:

|   |   |   |
|---|---|---|
| 9 | 2 | 1 |
| 2 | 4 | 4 |
| 2 | 7 | 2 |
| 4 |   | 4 |

|   |   |   |
|---|---|---|
| 9 | 0 |   |
| 8 |   | 2 |
| 7 |   | 2 |
| 1 | 0 | 0 |

|   |   |   |
|---|---|---|
| 5 | 2 | 1 |
| 1 | 9 | 0 |
| 2 | 9 | 9 |
| 0 |   | 4 |

|   |   |   |
|---|---|---|
| 8 | 6 |   |
| 5 | 9 | 8 |
| 3 | 0 | 0 |
| 9 | 2 |   |