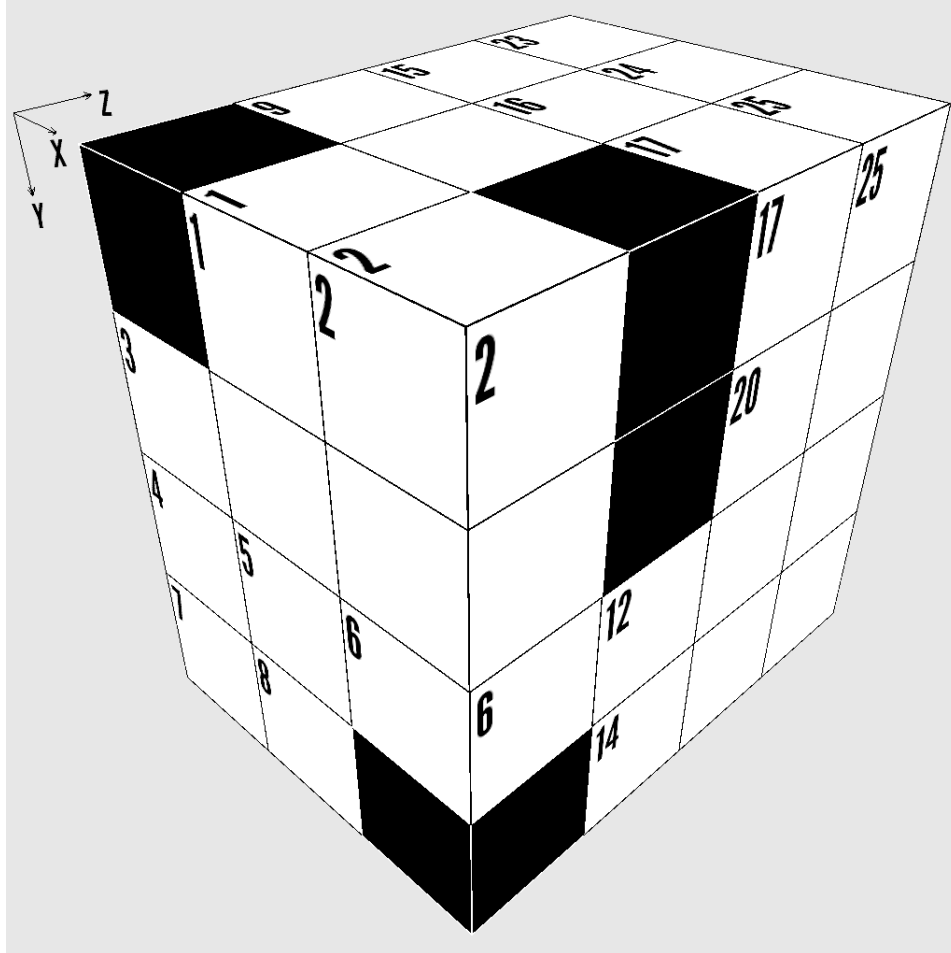


Difficulty: ★★☆☆☆

3D Math Puzzle - 3x4x4 Box 23



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

Clues:

X Direction

- 1 Is a square
- 3 Fifteen times Y12
- 4 Y15 minus X10
- 7 Digits are the same as first two digits of X18
- 9 Digits are in consecutive descending order
- 10 Last two digits are the same as Z7
- 13 Last two digits are the same as X1
- 15 Last two digits are the same as last two digits of Z3
- 18 First two digits are the same as first two digits of Z9
- 21 X1 plus X22
- 22 Digits are the same as first two digits of Z14
- 23 Is a prime number
- 26 Digits are in consecutive descending order
- 27 Fourteen times a prime number
- 28 Z3 minus X21

Y Direction

- 1 Is a prime number
- 2 Twelve times Y12
- 3 X18 minus X9
- 9 Is a prime number
- 11 Digits are in consecutive order
- 12 Digits are in consecutive order
- 15 Is a prime number
- 16 First two digits are the same as X26
- 17 Last two digits are the same as last two digits of Z6
- 24 Three times a prime number
- 25 Is a prime number
- 27 Twice a prime number

Z Direction

- 1 First two digits are the same as X1
- 3 First two digits are the same as first two digits of Y9
- 4 Forty-one times a prime number
- 5 Twenty-one times X10
- 6 Twenty-four times a prime number
- 7 Is a prime number
- 8 Three times a prime number
- 9 Is a square
- 14 Last two digits are the same as last two digits of Y25
- 17 Digits are the same as first two digits of X3
- 19 Digits are in consecutive order
- 20 Is a prime number

Solution is on next page

Solution:

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