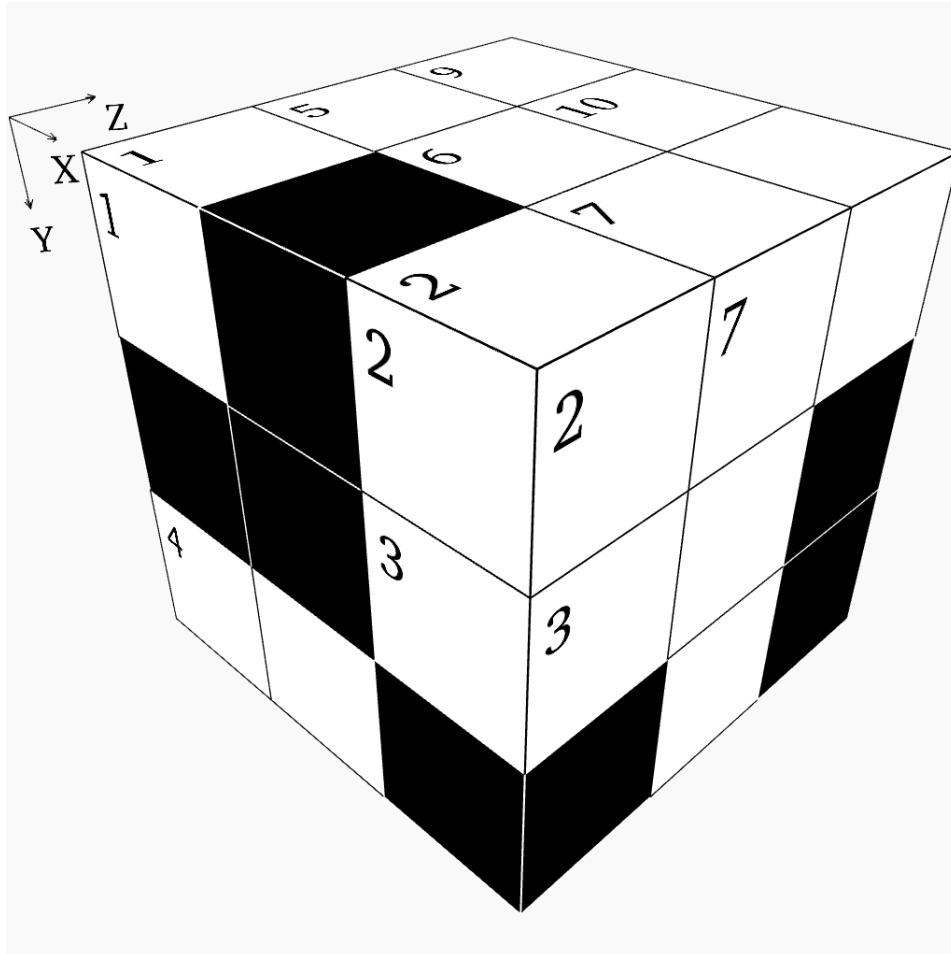


## Cube - Intermediate Puzzle #40



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 | 5 | 6 | 7 | 9  | 10 |  |
|   |  | 3 |   | 8 |   | 11 |    |  |
| 4 |  |   |   |   |   | 12 |    |  |

**X Direction**

- 4 Square root of Z4
- 5 Consecutive digits unordered
- 8 Same as Z8
- 9 Y10 minus half of X12
- 11 Nine times X4
- 12 Consecutive digits in descending order

**Y Direction**

- 2 Y9 minus Z1
- 6 Seven times X4
- 7 X5 minus Y6
- 9 Nine times X11
- 10 Ten times a prime number

**Z Direction**

- 1 Twenty-eight times a prime number
- 2 Fifteen times a prime number
- 3 Half of Z6
- 4 A square
- 6 Mean of Z8 and Y6
- 8 A prime number

**Solution:**

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