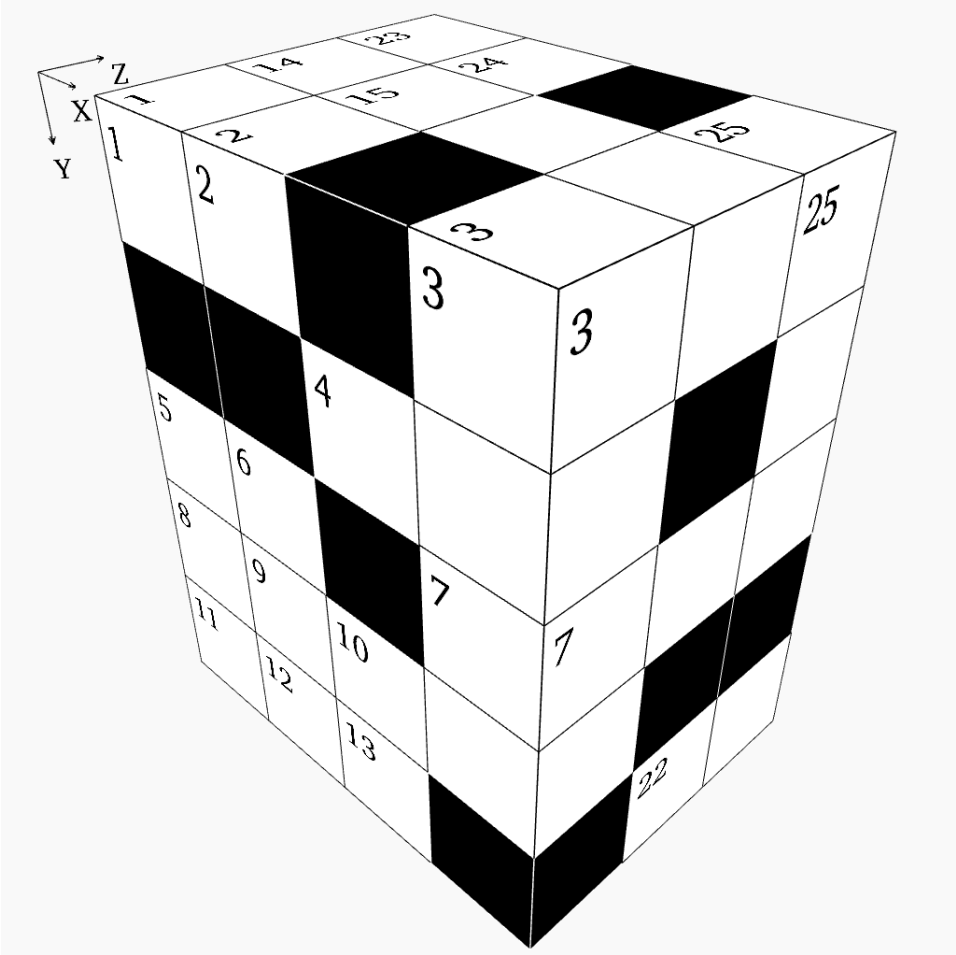
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #8

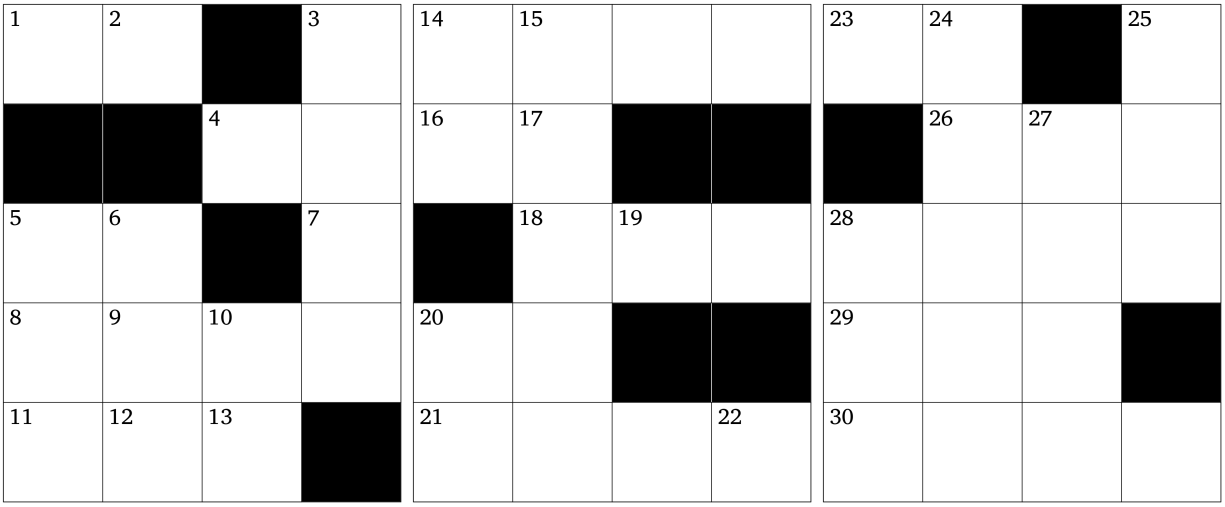


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 box pictured above and divide it into individual X-Y layers, we will get these planes:



X Direction

1 Z13 minus Y5
4 X16 reversed
5 Y28 minus Z8
8 Mean of Y3 and Z3
11 Fourteen times a prime number
14 A prime number
16 Y14 reversed
18 Y27 minus X20
20 A cube
21 Twice a prime number
23 Six times a square
26 Four times a prime number
28 X14 minus X26
29 Two-thirds of X18
30 Eighteen times a prime number

Y Direction

3 Thirty-six times a prime number
5 A prime number
6 Rearranged digits of Z11
10 Mean of Z19 and X5
14 Z22 minus X20
15 Ninety-four times a prime number
20 Two-fifths of Z19
24 Fifty-six times a prime number
25 Mean of Z9 and X4
27 X18 plus half of Y10
28 Consecutive digits unordered

Z Direction

1 X20 plus Z3
2 Eleven times a square
3 Y27 minus Z19
6 Z12 minus Y10
7 A prime number
8 Mean of Z1 and X1
9 Five times X16
11 Z12 plus X5
12 Eleven times Z22
13 X29 minus half of Z2
17 Three-fifths of X16
19 Mean of Y10 and Z22
22 X29 minus Y28

Solution: