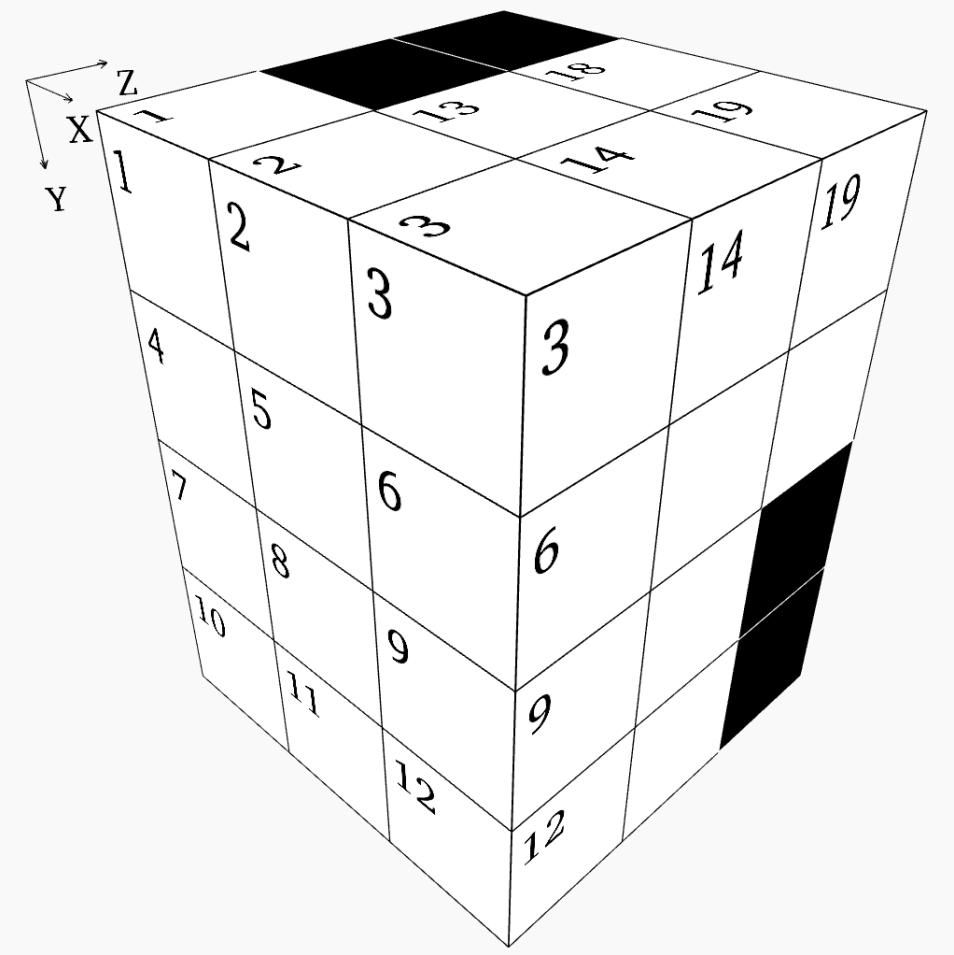
Difficulty: ★☆☆☆☆

Box - Intermediate Puzzle #43

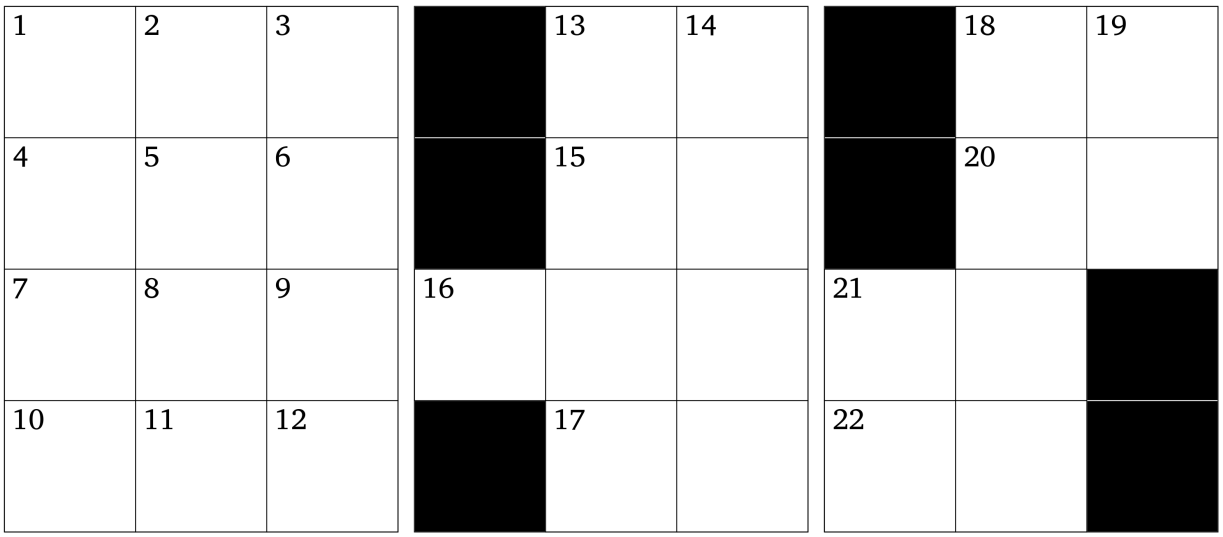


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 A prime number
4 A prime number
7 Y18 divided by sixty-eight
10 Z12 plus Z11
13 Same as Y21
15 Z7 divided by eight
16 Consecutive digits in descending order
17 Twice Y19
18 Z8 minus X13
20 Mean of Z6 and Y19
21 Four-fifths of Z6
22 Mean of X21 and X20

Y Direction

1 Thirty-six times a prime number
2 Forty-eight times a prime number
3 Fifty-four times X15
13 Four times a prime number
14 Five hundred forty-four less than Y18
18 Sixty-eight times a prime number
19 X10 minus X16
21 Z8 minus X18

Z Direction

2 Mean of X10 and Z6
3 Nine times a prime number
5 Y18 divided by Z9
6 X1 minus X4
7 Twice the result of Z3 minus Y21
8 Z7 minus Y19
9 X22 minus Z12
11 Y14 minus Y1
12 X20 minus X17

Solution: