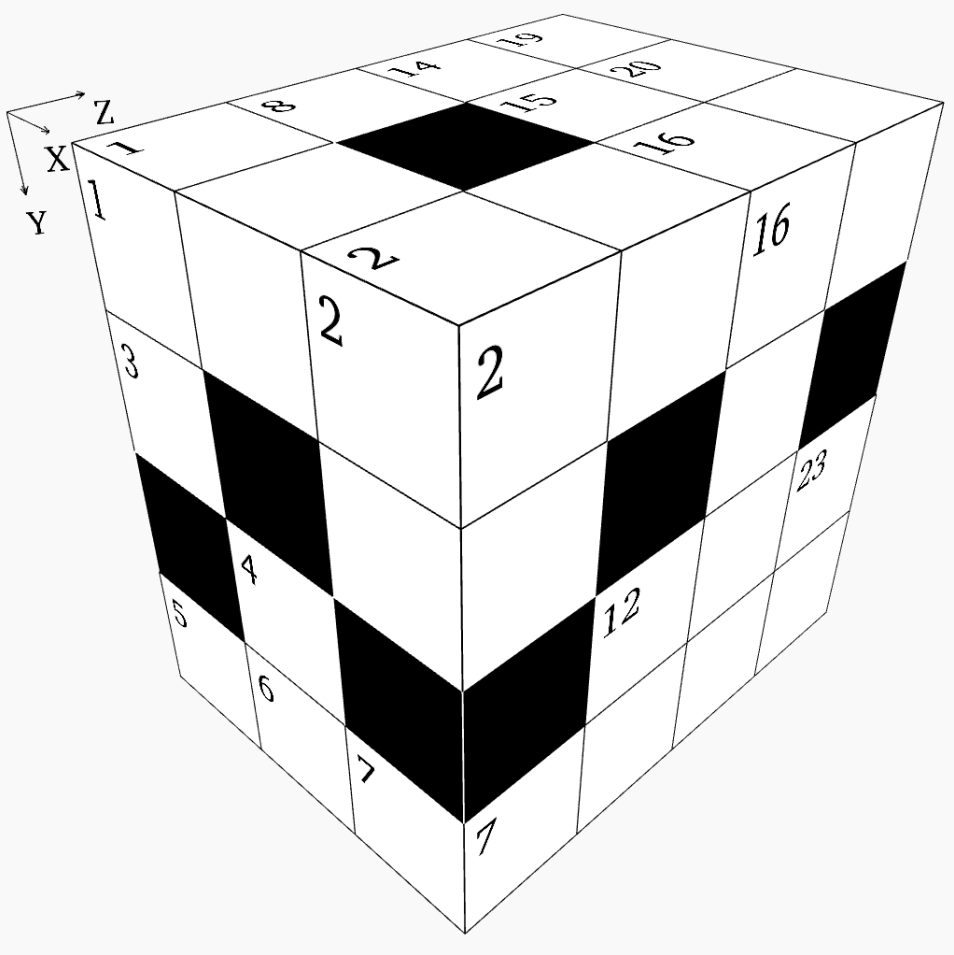
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #15

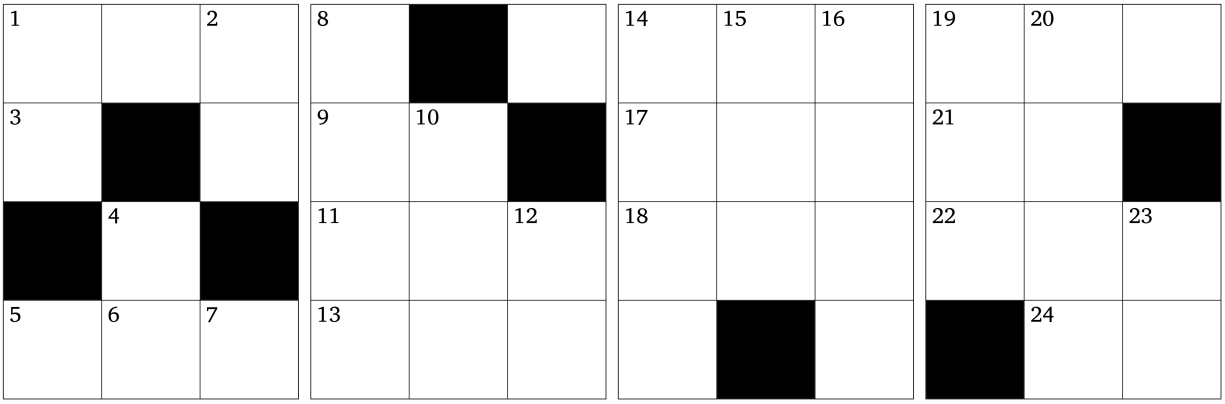


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 Y15 reversed
5 Mean of X1 and Y1
9 X24 divided by three
11 X1 plus Y19
13 Forty-three times X9
14 A prime number
17 Thirty-nine times a prime number
18 Y15 plus X9
19 Seven times a prime number
21 Y4 reversed
22 Twice a prime number
24 Six times a prime number

Y Direction

1 Z6 plus Z15
2 A square
4 X21 reversed
8 Z7 minus Y2
10 Thirty-five times X9
12 X24 plus Z6
14 Three times Z2
15 X1 reversed
16 Thirty-one times a square
19 Six times a prime number
20 Mean of Y14 and X19
23 Twice a prime number

Z Direction

1 Y15 times X24
2 A prime number
3 Z2 minus Y23
4 Last two digits are the same as last two digits of X22
5 Y10 minus half of Y19
6 Y16 divided by Y23
7 Twice a prime number
10 A prime number
11 Twice a prime number
12 Six times a prime number
15 Z4 divided by Z12

Solution: