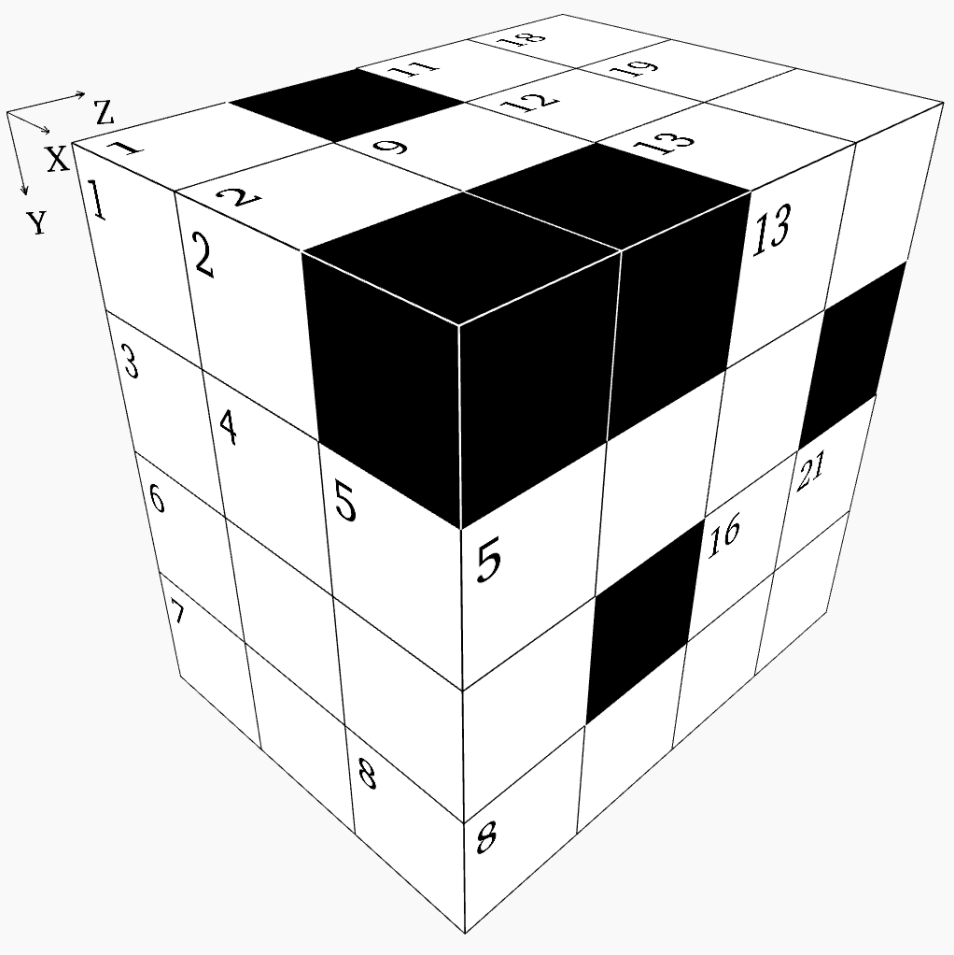
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #34

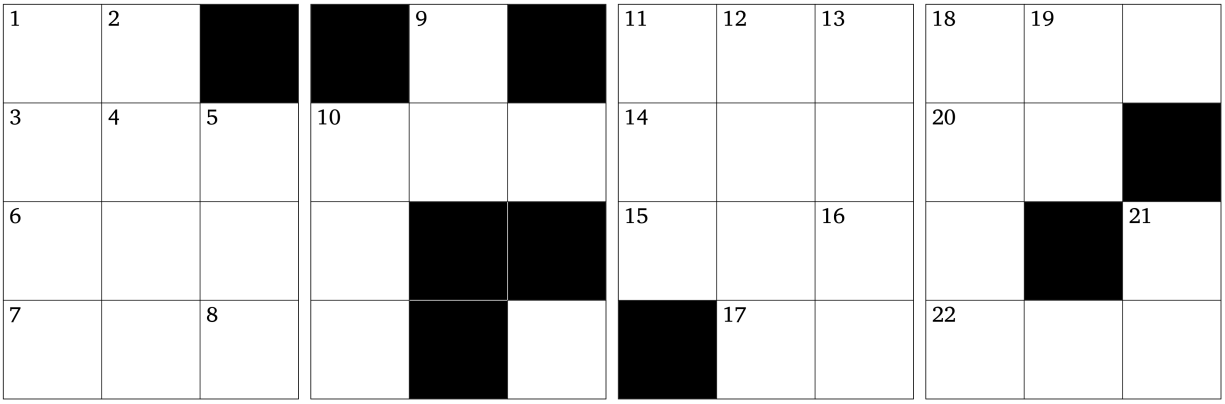


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 Z16 plus X20
3 Z8 minus X14
6 Seventeen times Z17
7 Y10 minus X20
10 Half of Y2, then subtract Y1
11 Half of X14, then subtract Y11
14 Y10 plus X11
15 Mean of X6 and Z11
17 Mean of Z7 and Z17
18 X10 minus Z11
20 Mean of Y9 and Z11
22 A cube

Y Direction

1 Eighteen times a prime number
2 Ten times a square
5 Z8 minus Z13
9 X18 divided by Z16
10 Y19 plus X15
11 X11 plus Y19
12 Eight times a prime number
13 Four times a prime number
18 Two hundred fifty-eight less than Z3
19 Digits are the same as last two digits of Z6
21 A prime number

Z Direction

2 A prime number
3 Y13 plus Y19
4 Eighty-seven times a prime number
5 Y12 minus Y10
6 X15 times X20
7 Two less than Z13
8 Y5 plus X17
11 Y10 divided by thirty
13 Z16 plus Y9
16 X17 minus Y9
17 Y21 minus Y19

Solution: