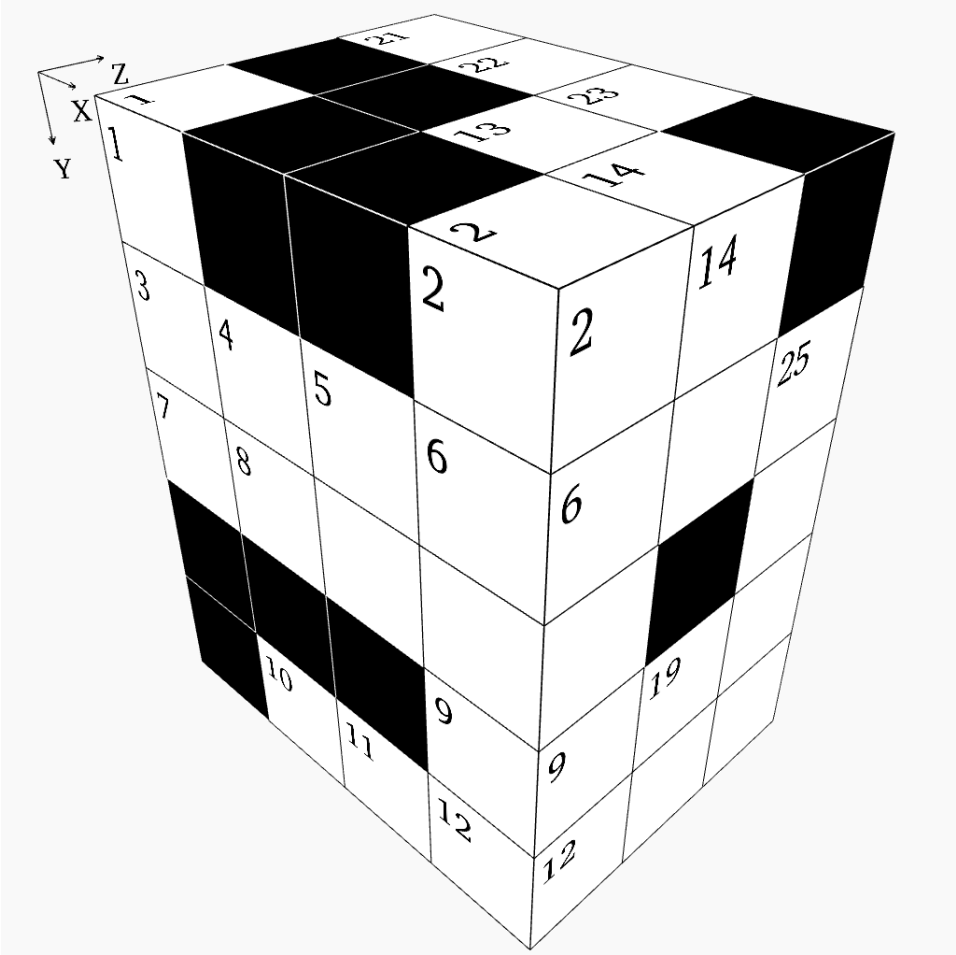
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #38

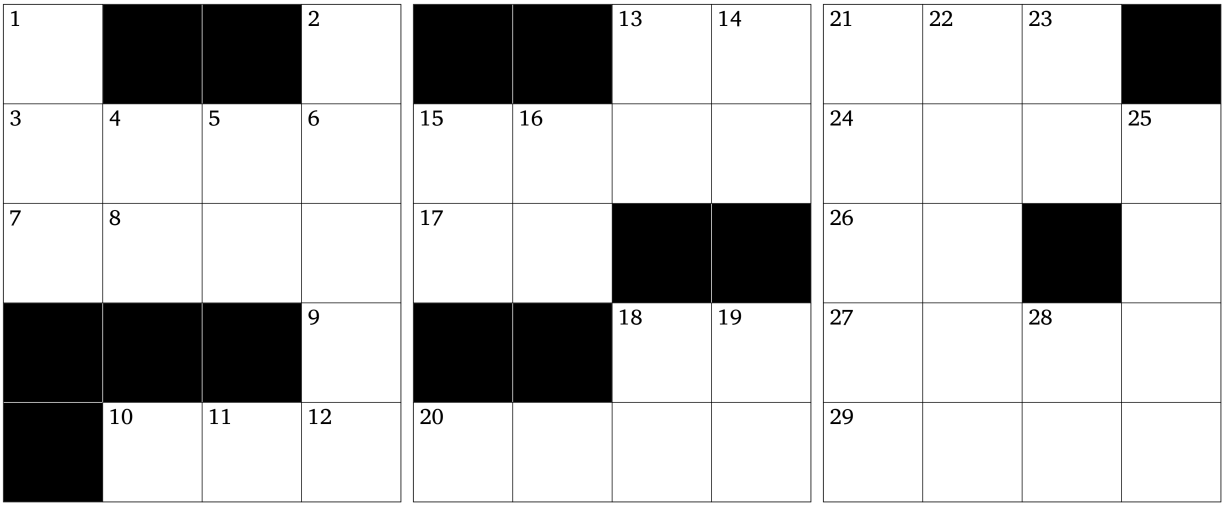


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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

3 Last two digits are the same as last two digits of Z12
7 Twice the result of X24 plus Y13
10 Sixty-seven times Y5
13 Twice the result of Z10 minus Z8
15 X13 times Y15
17 Mean of Y18 and X18
18 Y15 reversed
20 Thirteen times a prime number
21 A prime number
24 Twice a prime number
26 Mean of Y16 and X17
27 Sixteen times a prime number
29 Seventy-five times a prime number

Y Direction

1 X10 minus Z6
2 Its digits total Y16
4 Z3 minus Z9
5 Z5 minus X17
13 Twice a square
14 X17 minus Y19
15 Y18 divided by five
16 Same as Y5
18 Y5 plus Y14
19 Y25 divided by Z7
21 Seventy-two times a prime number
22 Five thousand eight hundred twenty-six more than Y21
23 Z12 minus Y15
25 Three hundred twenty more than X29
28 Mean of Z18 and Z2

Z Direction

2 Y14 reversed
3 Mean of X21 and Z7
4 Fifty-four times a prime number
5 Y18 plus Y19
6 Sixty-nine less than Z7
7 Thirty-five times a prime number
8 Seventeen times a square
9 Twice a prime number
10 Twice a prime number
11 Forty-seven times Z20
12 X26 plus Y28
13 Y18 reversed
18 Six times Z20
20 X27 divided by X21

Solution: