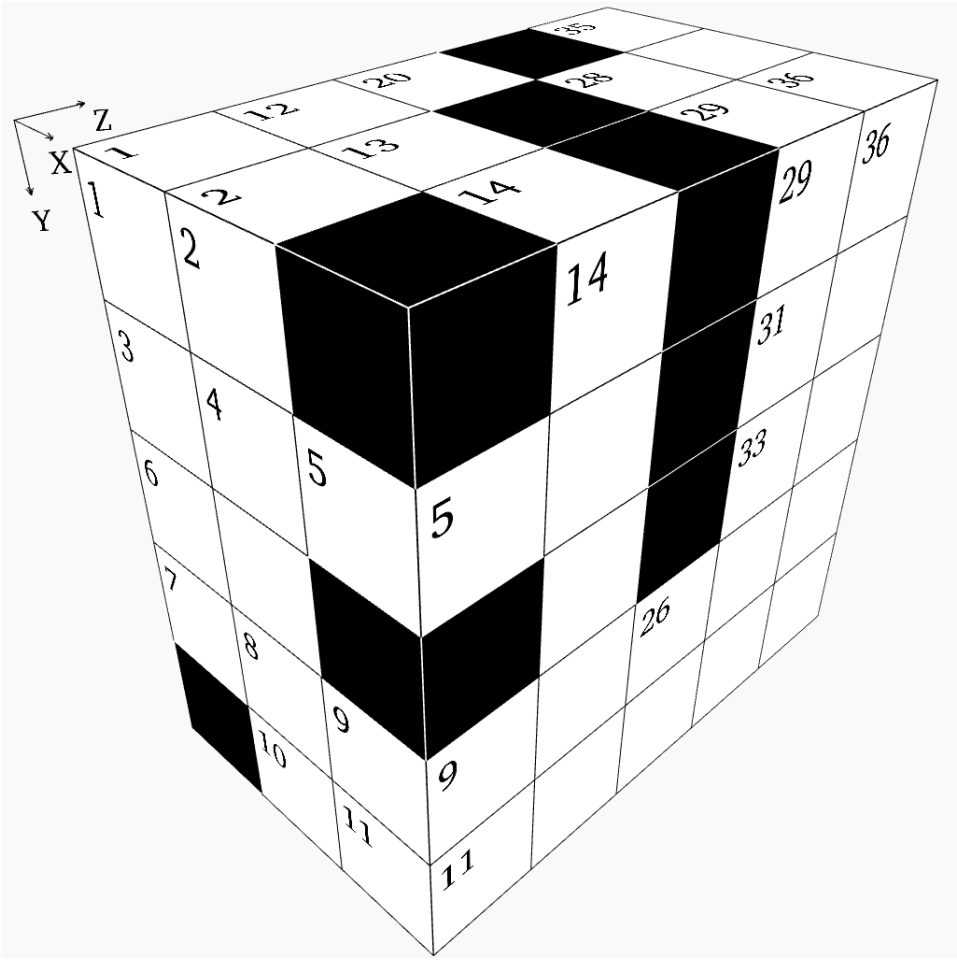
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #5

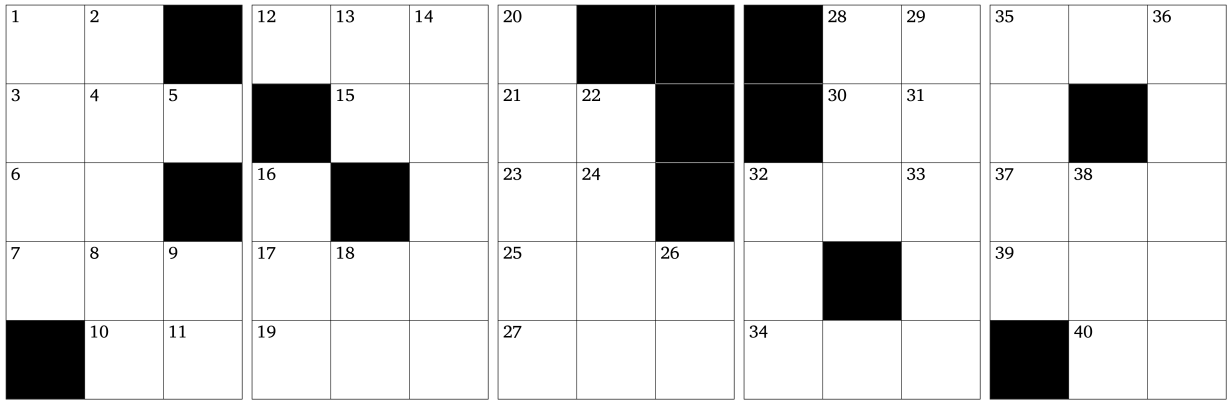


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 X37 minus Z28
3 Mean of X28 and Z1
6 X37 minus Y26
7 X35 minus Z31
10 Mean of X23 and X1
12 Mean of Y38 and X21
15 Z31 minus half of Y13
17 Mean of X3 and X40
19 Twice Y38
21 X32 minus Z28
23 Z10 minus Z11
25 Y26 plus X1
27 Nineteen times Z33
28 A square
30 Mean of X28 and X10
32 Z19 minus Z1
34 Twice the result of Y28 minus X7
35 Mean of Z8 and X6
37 Mean of Z31 and X12
39 A prime number
40 Mean of X32 and Z33

Y Direction

1 Seventy-three times X32
2 First two digits are the same as first two digits of Y22
9 Mean of Y32 and Z33
13 X10 minus Z28
14 Half of Y29, then subtract Y35
16 Z7 divided by X37
18 X1 minus X40
20 Eighty-eight times a prime number
22 Twenty times a prime number
26 Mean of X21 and X32
28 Ten times a prime number
29 Two thousand two hundred twenty-four more than Y20
32 X12 minus X30
35 Eighty-two times X15
36 One thousand nine hundred eight more than Y2
38 Five times a square

Z Direction

1 Last two digits are the same as Y13
2 Z29 plus Y13
4 One thousand five hundred thirty-seven more than Y22
5 A square
6 A prime number
7 Last two digits are the same as last two digits of X35
8 Eight times a prime number
9 Fifty-seven times a prime number
10 Five thousand four hundred twenty-six more than Z9
11 Twice a prime number
19 Seventy-five times Z33
24 Eight times a prime number
28 A square
29 Y26 minus Y18
31 X6 minus Z33
33 Y38 minus X3

Solution: