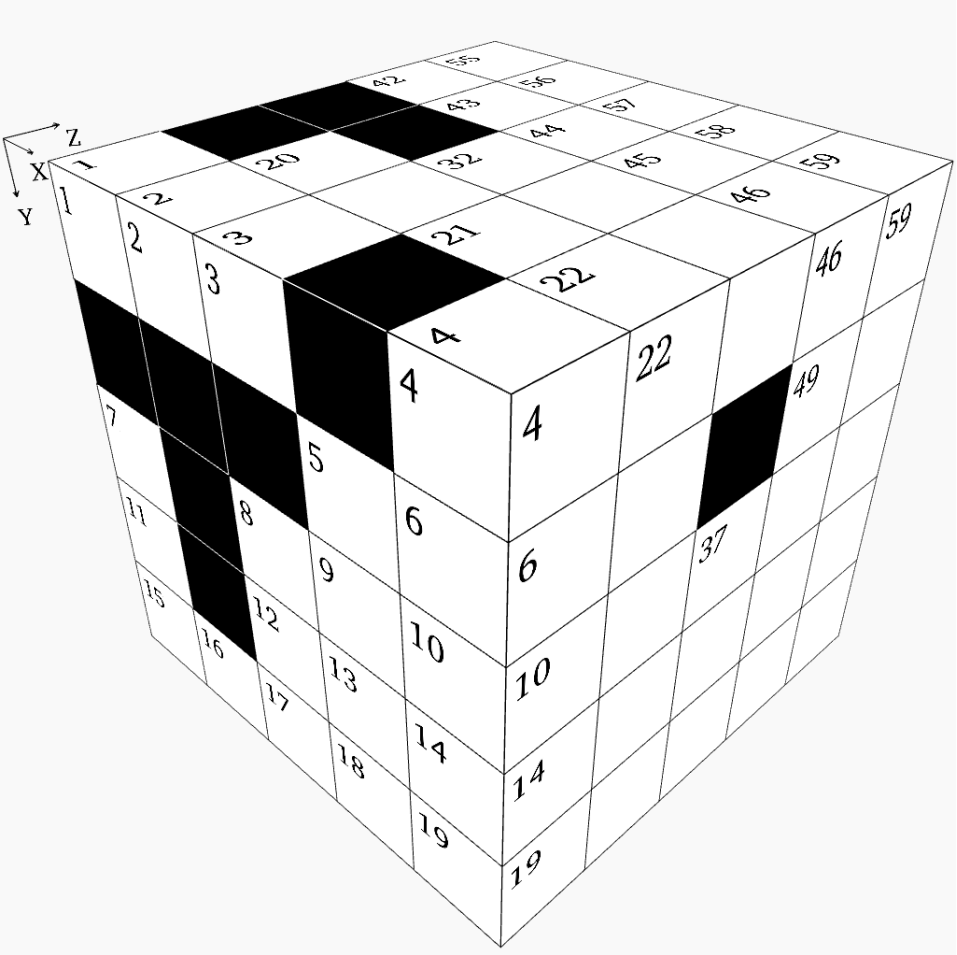
Difficulty: ★★★★☆

Cube - Hard Puzzle #11

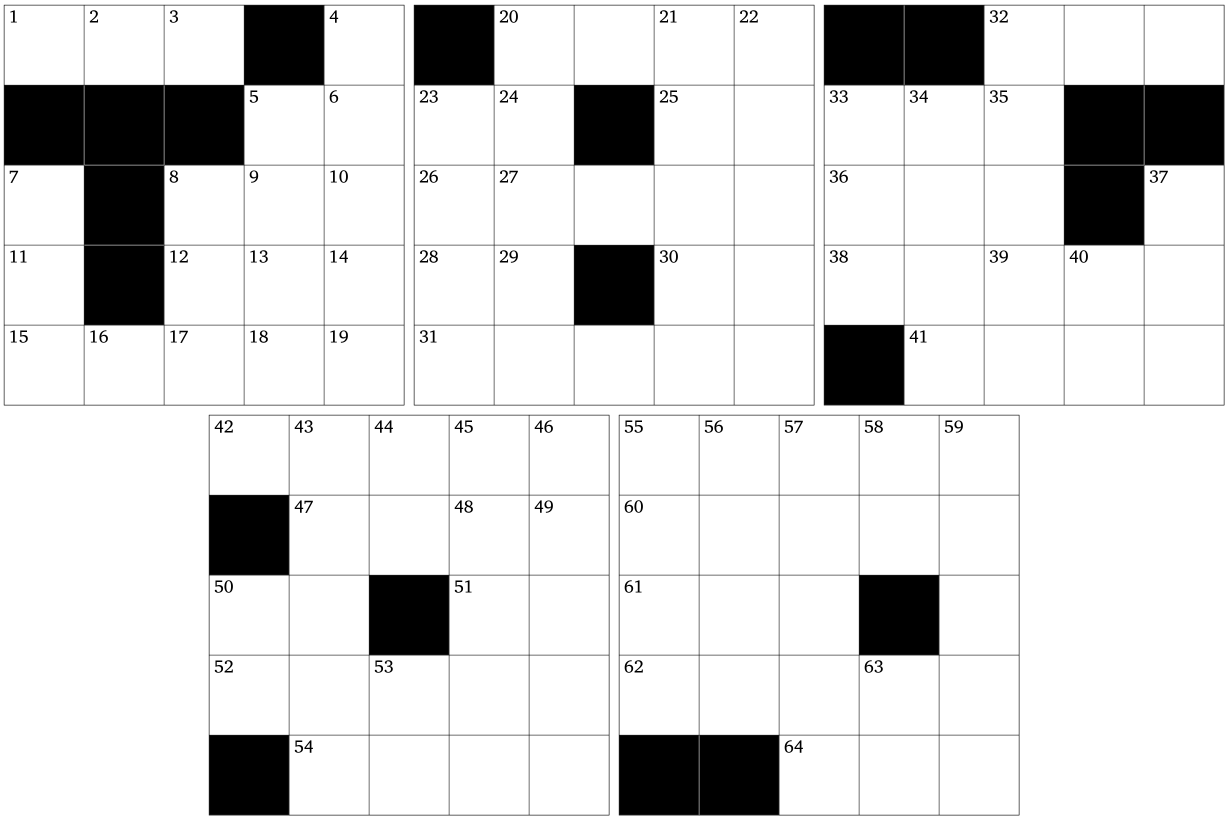


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 cube pictured above and divide it into individual X-Y layers, we will get these planes:



X Direction

1 Mean of X64 and Y58
5 Z49 minus Z6
8 Mean of Z42 and Y7
12 Z24 divided by Y40
15 Mean of Y22 and X62
20 A prime number
23 A cube
25 X32 minus Z8
26 Fifty-two times a prime number
28 Z16 divided by Z9
30 X23 plus Z5
31 Three thousand eight hundred eighty-three more than Y32
32 A cube
33 A square
36 Y8 minus Z5
38 Y20 plus Y33
41 Ten times a prime number
42 Three times a prime number
47 A prime number
50 A prime number
51 X12 divided by eighteen
52 Z4 minus Z23
54 Twice a prime number
55 Twenty-seven times a prime number
60 Fifteen times a prime number
61 X64 minus Y40
62 Four times a prime number
64 A prime number

Y Direction

4 Four times a prime number
5 Two hundred fifty-eight more than Z29
7 Y33 minus Z48
8 Z8 minus Z49
20 Four thousand four hundred eighty-two more than Z14
21 Fourteen times a prime number
22 Nine thousand two hundred sixty-seven less than Z19
23 Eighty-four times Z23
32 Seventeen times a prime number
33 Six times a prime number
34 One thousand three hundred fifteen more than X54
37 Twenty times Y40
40 Z2 plus X51
43 Seventy-two times a prime number
44 A square
45 Last two digits are the same as Z48
46 Twice a prime number
50 X5 plus Z23
53 A square
55 Eighteen times a prime number
56 Eighty-eight times a prime number
57 Mean of Y22 and X61
58 Z43 minus Z2
59 Seven thousand four hundred forty-nine more than X38
63 Z14 minus Z17

Z Direction

2 Mean of X51 and Y58
3 X26 minus X47
4 X52 plus half of X30
5 A square
6 Mean of Z48 and Y58
7 Three times a prime number
8 A prime number
9 Z43 plus Z5
10 Y7 times Y50
11 Eighteen times a prime number
13 Z16 plus Y20
14 Five thousand one hundred less than X38
15 Z43 minus Y40
16 Forty-one times a square
17 Thirty-seven times a prime number
18 Two thousand two hundred less than Z7
19 X31 minus X36
21 Y21 minus half of X62
23 X15 divided by Y55
24 Four hundred one less than X20
27 Eighty-five times a prime number
29 Seventy-six times Y44
35 X33 minus X51
39 X64 minus X50
42 Sum of digits in X42
43 Half of X54, then subtract Y56
48 Z2 plus X23
49 Z5 plus X25

Solution: