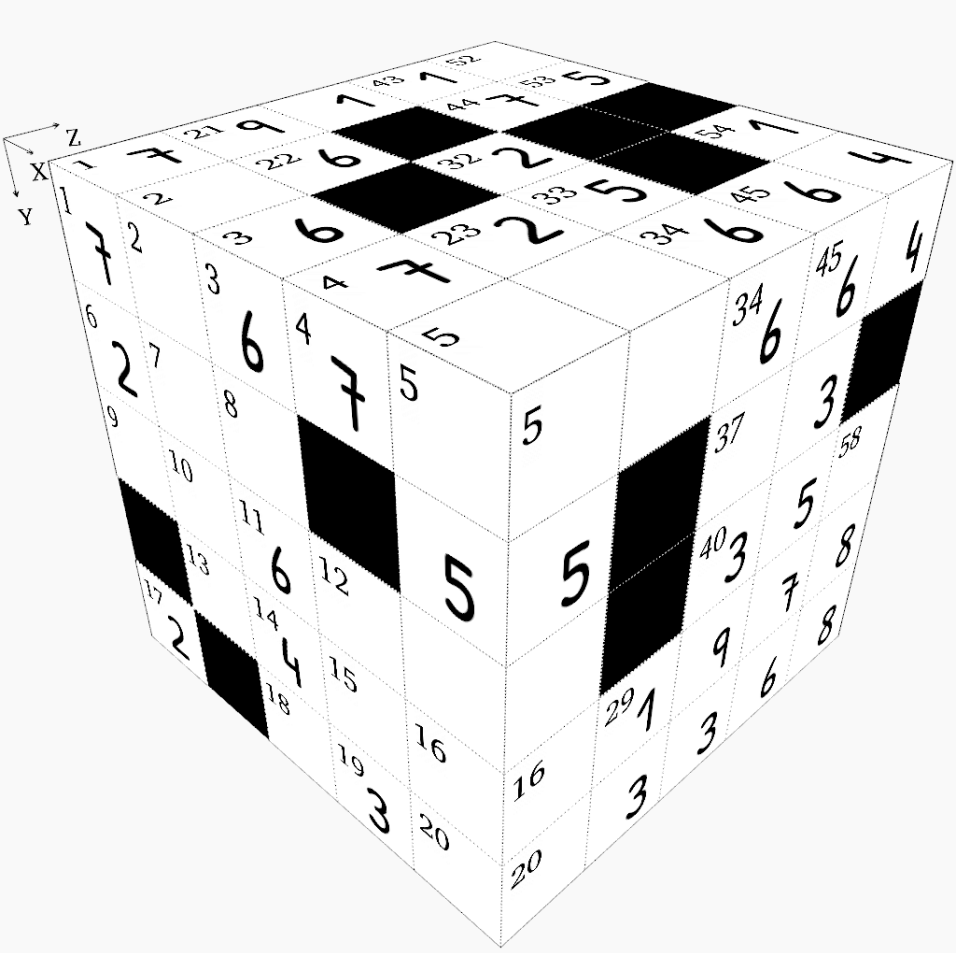
Difficulty: ☆☆☆☆☆

Cube - Beginner Puzzle #49

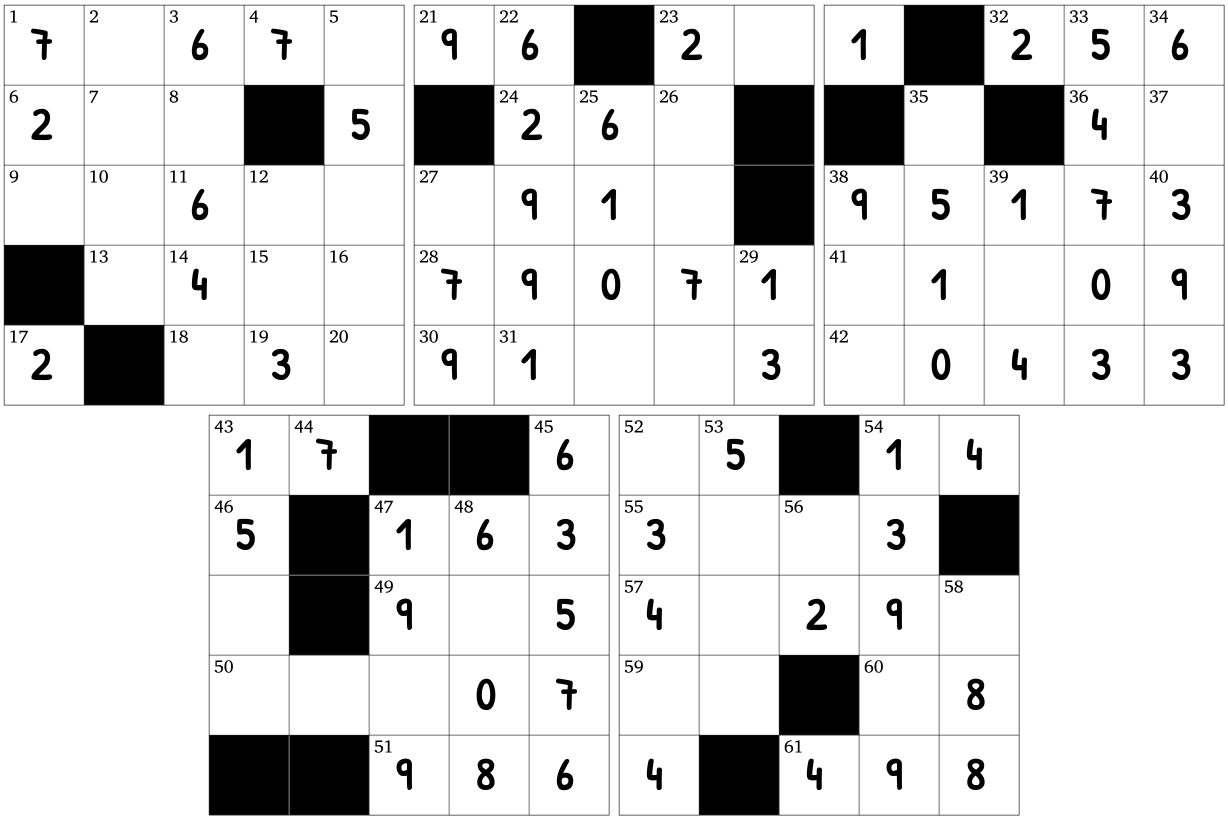


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 Last two digits are the same as Z44
6 X50 divided by Y27
9 Eight thousand three hundred eighteen more than X57
13 Four hundred seventy-six more than Y47
18 Half of Z40, then subtract X36
21 Y52 minus Z20
23 X36 minus Y29
24 Y23 minus half of X9
27 Four hundred five more than Y35
28 Three times a prime number
30 Three thousand three hundred six more than X50
32 A square
36 Two-thirds of X59
38 Sixteen thousand fifty-seven more than Z1
41 Seventeen thousand four hundred seven less than Z1
42 Eleven thousand nine hundred sixty less than Y34
43 Y12 minus X21
47 X60 plus X52
49 Five times a prime number
50 Nine thousand two hundred thirty-six more than X28
51 Fifty-eight times X43
52 X23 plus Z8
54 X60 divided by seven
55 Thirteen times a prime number

X Direction (continued)

57 Eight thousand nine hundred seven more than Z19
59 Z31 plus Z46
60 Z44 plus Z37
61 Mean of X51 and Z31

Y Direction

1 Four-fifths of X49
2 Twice the result of Y25 minus X13
3 Y45 plus X52
5 Thirty-two times a prime number
12 X18 minus Z37
22 Twenty-seven times a prime number
23 A prime number
25 Y48 plus X60
27 Z40 plus Z37
29 Z2 minus X59
33 Eleven times a prime number
34 Forty-three times a prime number
35 Twice the result of Y52 minus X41
38 Five times a prime number
39 Six times X23
43 Mean of X55 and X59
45 Seventy-two times a prime number
47 Seven times a prime number
48 Y53 plus X49
52 Eight times a prime number
53 Rearranged digits of Y35
54 A prime number
56 X36 minus Z31
58 Y1 minus Z8

Z Direction

1 Twelve thousand four hundred ninety-seven less than X30
2 Y39 minus X60
4 Twenty-five times X23
5 Eleven thousand fifty more than X9
7 Rearranged digits of X6
8 A square
9 Six thousand four hundred thirty-nine less than X42
10 X49 minus Z31
11 Two thousand two hundred seventy-two less than Y52
12 Mean of Z19 and X23
13 Seventy-seven times Y27
14 A prime number
15 Seventy-three times X6
16 Eleven thousand four hundred eighty-six less than Y52
17 Five times a prime number
18 Six times a prime number
19 Three times a prime number
20 Twice the result of Z19 plus Z17
26 A prime number
28 Z5 minus Z16
31 Z44 minus X52
37 X52 minus X36
40 Four times a prime number
44 Mean of X54 and X18
46 Z2 minus Z37
47 X52 divided by five

Solution: