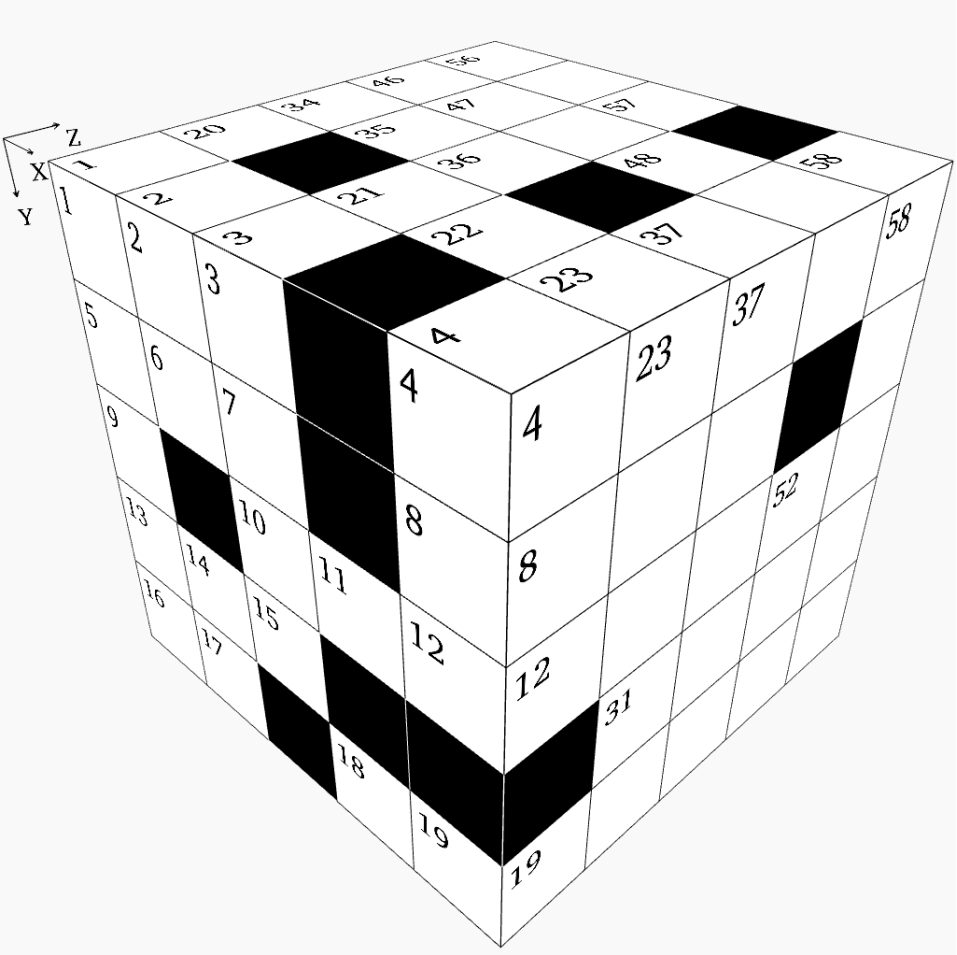
Difficulty: ★★★☆☆

Cube - Challenging Puzzle #25

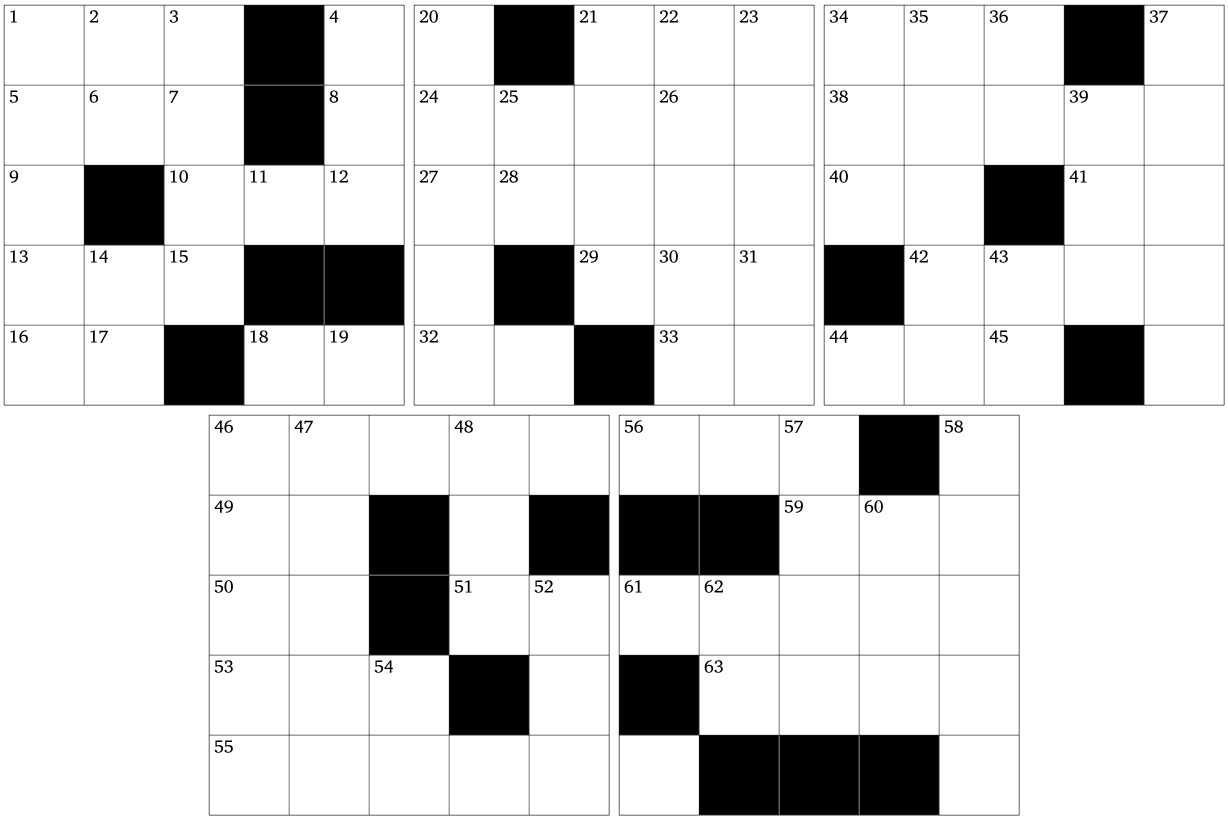


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 Z35 and X13
5 A square
10 Three times Z8
13 Eleven times Z30
16 Y54 plus Z30
18 X24 divided by Y4
21 Three times a prime number
24 Last three digits are the same as X53
27 Sixty-four times a prime number
29 Half of X59, then subtract X13
32 Sum of digits in X55
33 Sum of digits in Y3
34 Mean of Y25 and Y60
38 Twenty-three times a prime number
40 X56 divided by twenty-two
41 Y54 minus Y62
42 Consecutive digits unordered
44 Half of X53, then subtract Z45
46 Sixteen times a prime number
49 Z30 plus X33
50 X29 minus X32
51 X59 minus Y60
53 Mean of Z5 and Z13
55 Twelve times a prime number
56 Twelve times Y25
59 Y62 plus X56
61 Five times a prime number
63 Eight hundred eighty more than X42

Y Direction

1 X61 minus X1
2 A square
3 Twice a prime number
4 X24 divided by Z18
14 Y36 plus Z13
20 Twenty-two times a square
21 Twenty-three times a prime number
22 Y37 minus Z30
23 Mean of Z16 and X21
25 Same as X41
34 X5 plus Y62
35 X46 minus Z28
36 Y54 minus X33
37 Thirteen thousand ninety-eight less than Y58
39 Mean of X34 and Y36
43 Y58 minus Z11
46 Eleven times a prime number
47 Y46 minus half of Y57
48 Mean of Y60 and Y14
52 Mean of Z42 and Y62
54 Y25 plus Y62
57 Four times a prime number
58 Three hundred ninety-two less than X24
60 Y52 plus X5
62 A square

Z Direction

1 Z35 plus half of Y37
3 Eight thousand seven hundred forty-six less than X27
4 Four times a prime number
5 Thirty-seven times Y2
6 A square
7 Five times a prime number
8 Y34 plus Y2
9 One thousand one hundred sixty-four less than Y35
10 Mean of X51 and Y54
11 Six times a prime number
12 Half of Y20, then subtract Z10
13 Y25 minus X33
15 Twice a prime number
16 Nine hundred eighty-five more than Y22
17 Thirty-nine times a prime number
18 Same as X18
19 Sixty-four times a prime number
26 Twice a prime number
28 Seventeen times a prime number
30 Y2 minus Y36
31 Two thousand two hundred forty-nine less than X38
35 Z30 plus X56
42 Y14 plus Y60
45 X13 minus X16

Solution: