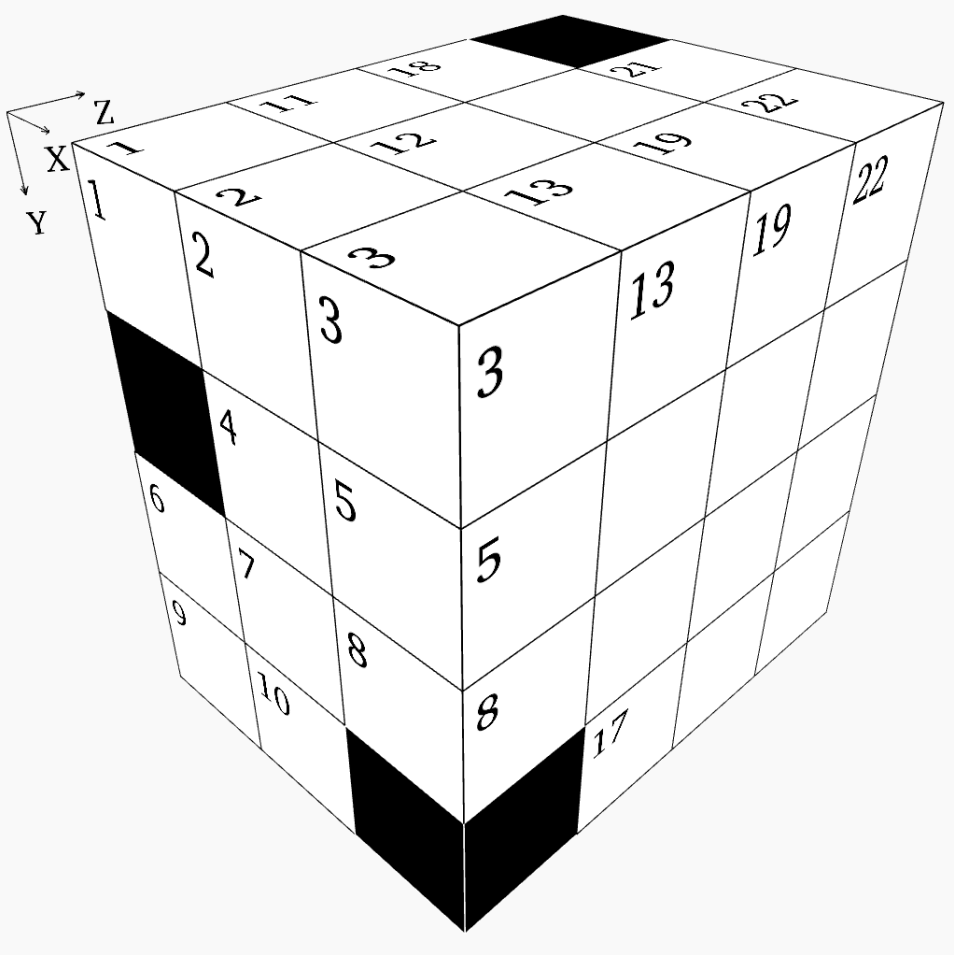
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #47



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.

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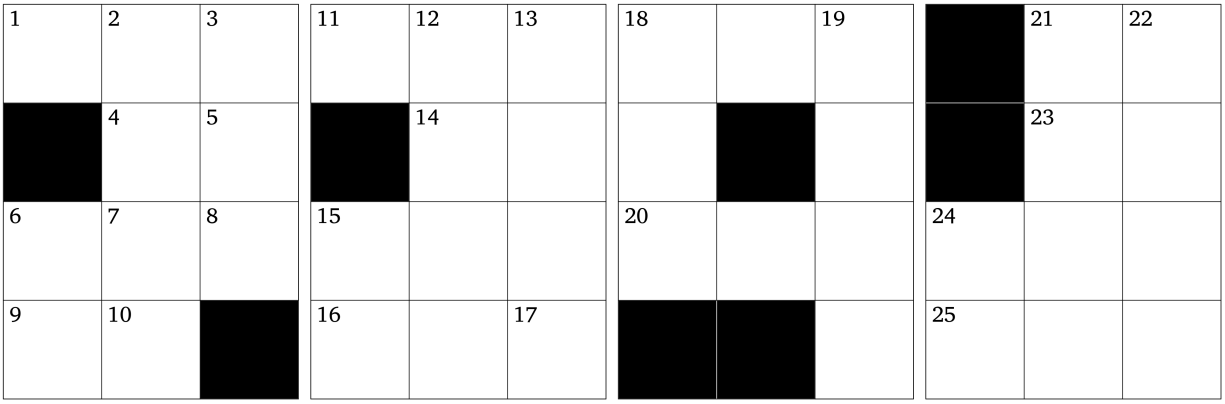
If we take the box pictured above and divide it into individual X-Y layers, we will get these planes:



X Direction

1 Twice Z9
4 X18 minus X9
6 Twice a prime number
9 X18 minus Z4
11 X21 plus Z17
14 Y19 divided by X1
15 A square
16 X4 plus X24
18 Y18 plus X23
20 Twelve times a prime number
21 Two-thirds of X14
23 A square
24 Four times X18
25 Mean of Y18 and Y24

Y Direction

2 Z2 plus X4
3 X18 plus Y6
6 X18 minus Y15
12 Eighty-two times a square
13 Seventy-two times Z1
15 X11 divided by three
18 X21 plus Z1
19 A square
21 Seventy times X23
22 Y15 times X25
24 X23 reversed

Z Direction

1 A square
2 Y2 minus Z4
3 Half of Y22, then subtract Z7
4 X16 minus X24
5 Z6 minus Z8
6 Sixteen times a prime number
7 Fourteen times a prime number
8 One thousand four less than Y19
9 Y19 divided by fifty-four
10 X25 minus X4
17 Y3 plus X23

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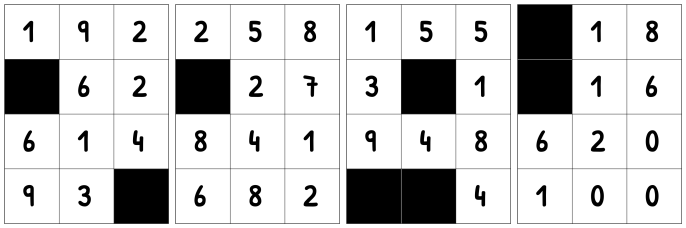
Solution:



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