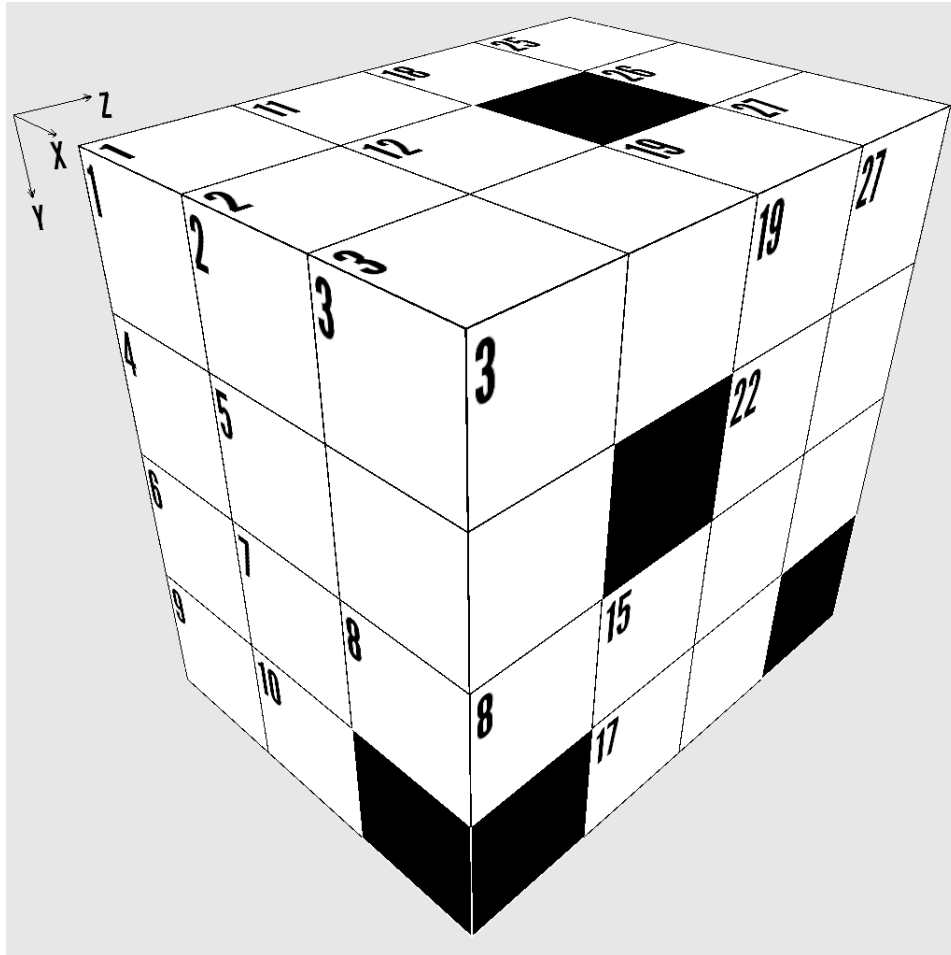


Difficulty: ★★☆☆☆

3D Math Puzzle - 3x4x4 Box 18



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" read from:
 - a. X Direction: Left to right
 - b. Y Direction: Top to bottom
 - c. Z Direction: Front to back
3. There is one unique solution which satisfies all the clues given below.
4. 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:

1	2	3	11	12		18		19	25	26	27
4	5		13			20	21	22	28		
6	7	8	14		15		23		29		
9	10		16		17	24			30		

Clues:

X Direction

- 1 First two digits are the same as first two digits of X16
- 4 First two digits are the same as first two digits of Y2
- 6 First two digits are the same as first two digits of Z3
- 9 Is a prime number
- 11 Last two digits are the same as last two digits of Y3
- 13 X6 minus Y18
- 14 First two digits are the same as first two digits of Y19
- 16 First two digits are the same as first two digits of Y1
- 20 Half of X29
- 23 Three times a prime number
- 24 X25 plus X28
- 25 Is a prime number
- 28 Rearranged digits of Y27
- 29 Y1 minus Z9
- 30 Digits are in consecutive order

Y Direction

- 1 First three digits are the same as X1
- 2 Is a prime number
- 3 Twelve times Z6
- 11 Last two digits are the same as last two digits of Y1
- 12 Is a prime number
- 15 Three times a square
- 18 Two-thirds of X30
- 19 Last two digits are the same as last two digits of X16
- 21 Last two digits are the same as last two digits of Z7
- 25 Twenty-seven times a prime number
- 26 Last two digits are the same as last two digits of Z10
- 27 X20 minus X6

Z Direction

- 1 First two digits are the same as first two digits of X1
- 2 Three times X9
- 3 Last two digits are the same as Z6
- 4 Is a prime number
- 5 Thirty-eight times a prime number
- 6 Is a prime number
- 7 Seven times a prime number
- 8 Three times X11
- 9 Eleven times a prime number
- 10 Forty-three more than Y19
- 17 Digits are the same as last two digits of Z1
- 22 Average of Y15 and Z2

Solution is on next page

Solution:

3	9	1	9	3	2	5	■	1	5	7	1
9	4	3	7	0	■	2	6	8	1	6	4
1	2	2	1	8	7	■	6	9	5	3	6
3	1	■	3	9	5	7	3	5	7	8	■