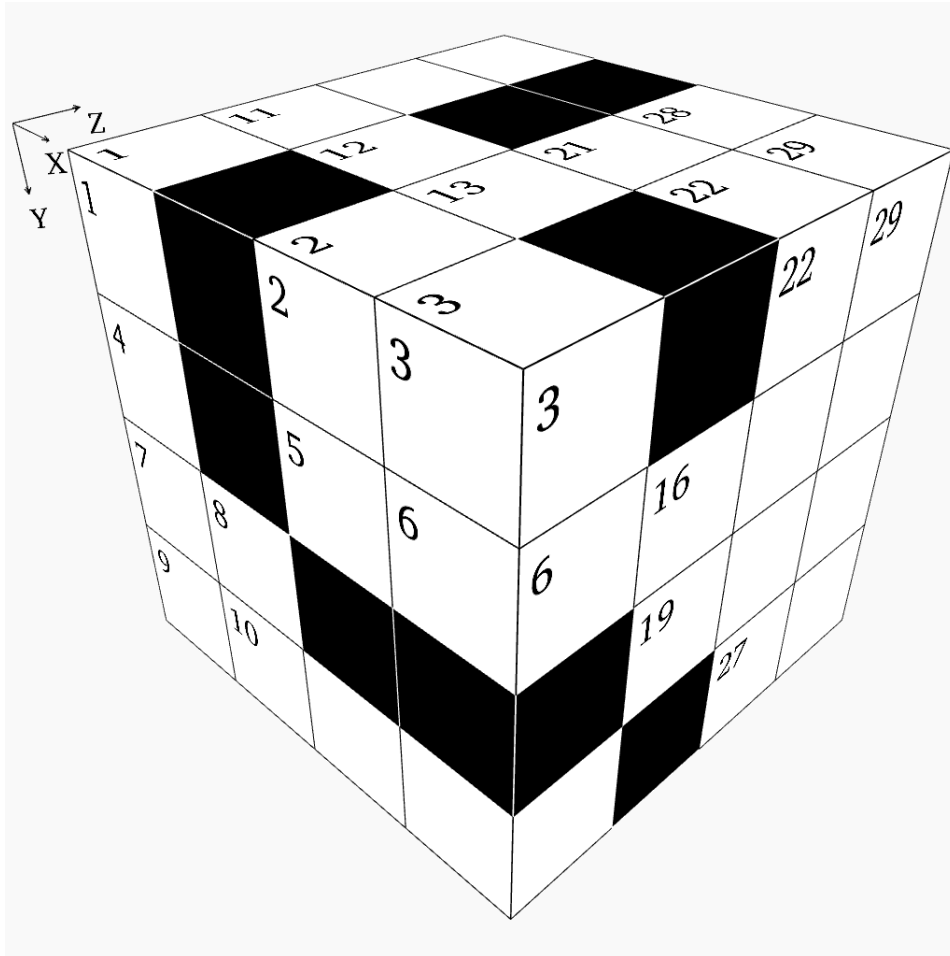


Cube - Challenging Puzzle #18



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" 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:

1		2	3	11	12	13				21	22			28	29
4		5	6	14	15		16		23						
7	8			17		18	19	24				30		31	
9	10			20				25		26	27	32			

X Direction

- 2 Z18 minus X11
- 5 X28 minus Y24
- 7 X24 divided by seventy-six
- 9 Thirty-nine times a square
- 11 Y12 minus X23
- 14 Two-thirds of Z2
- 17 Z19 plus X23
- 20 Six times X7
- 21 Same as X31
- 23 X24 minus half of Z15
- 24 Mean of Y2 and X25
- 25 Mean of Z9 and Z8
- 28 Mean of Y8 and Y30
- 31 X28 minus Y24
- 32 First two digits are the same as first two digits of Z19

Y Direction

- 1 Z7 minus half of Y3
- 2 Half of Y29, then subtract X14
- 3 X28 minus X5
- 8 Mean of X7 and Y16
- 11 A prime number
- 12 Two hundred forty-seven more than Y1
- 13 Mean of Z19 and Z18
- 16 Z22 plus Y31
- 21 Thirty-six times a prime number
- 22 Eight times a prime number
- 23 Seventy-six times Y3
- 24 Four-fifths of X7
- 29 Sixty-eight times a prime number
- 30 A prime number
- 31 Half of Y21, then subtract X9

Z Direction

- 1 Z22 times X31
- 2 Forty-one times Y16
- 4 Z27 minus Y2
- 5 Twice a prime number
- 6 Six hundred fourteen more than X25
- 7 Three times a prime number
- 8 Eleven times Y8
- 9 Seventy-seven times Y8
- 10 Y13 plus Z18
- 15 Twenty-six times X7
- 18 Twice a prime number
- 19 Fifty-four times a prime number
- 22 Y23 divided by thirty-eight
- 26 X2 plus Z4
- 27 Z2 minus half of X32

Solution:

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