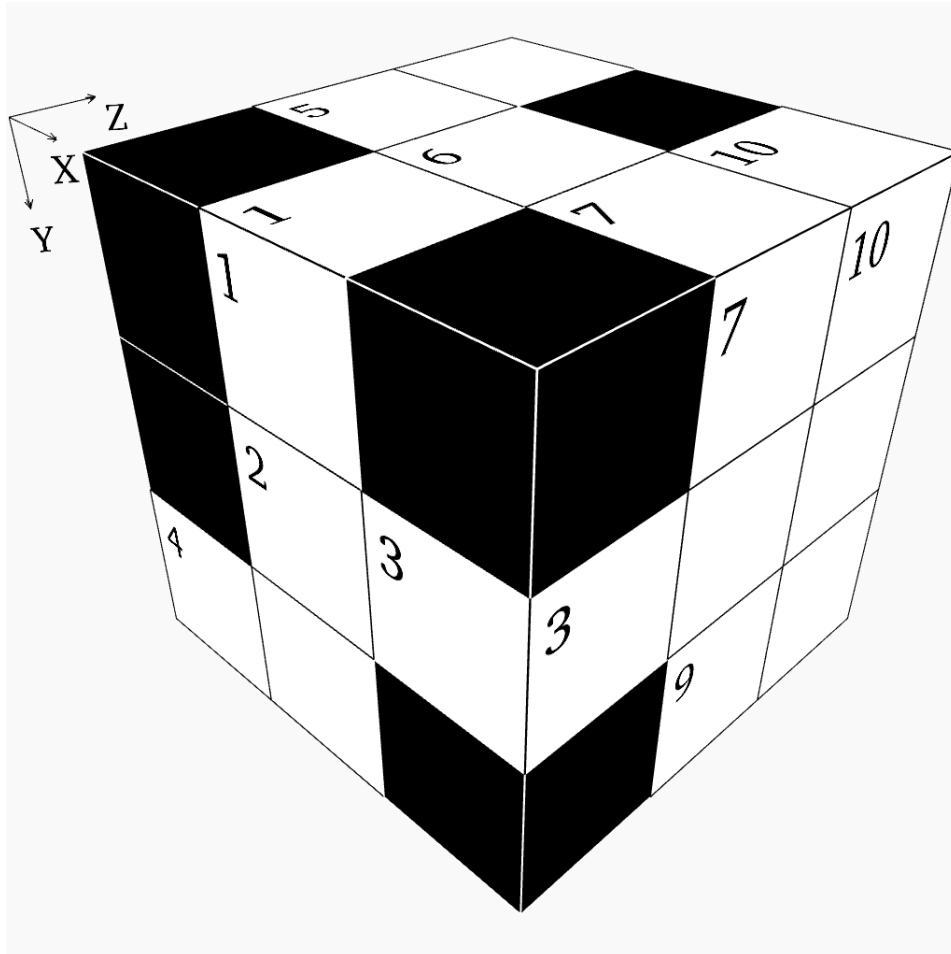


Cube - Intermediate Puzzle #23



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		5	6	7			10
	2	3	8				11	
4					9		12	

X Direction

- 2 A square
- 4 $X2 - Z5$
- 5 Forty-four times a prime number
- 8 Mean of $Y7$ and $X12$
- 11 $Z5 + Z4$
- 12 Mean of $X8$ and $Z7$

Y Direction

- 1 $Z9 \times Z7$
- 5 Twelve times a prime number
- 6 Half of $Y10$
- 7 Nine times $Z4$
- 10 Eight times a prime number
- 11 Mean of $Y10$ and $Z4$

Z Direction

- 1 $X8 - Y6$
- 2 Twenty-eight times a prime number
- 3 $Y11 + \text{half of } X12$
- 4 $X5 \div X4$
- 5 A prime number
- 7 Consecutive digits in descending order
- 9 Six times a prime number

Solution:

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