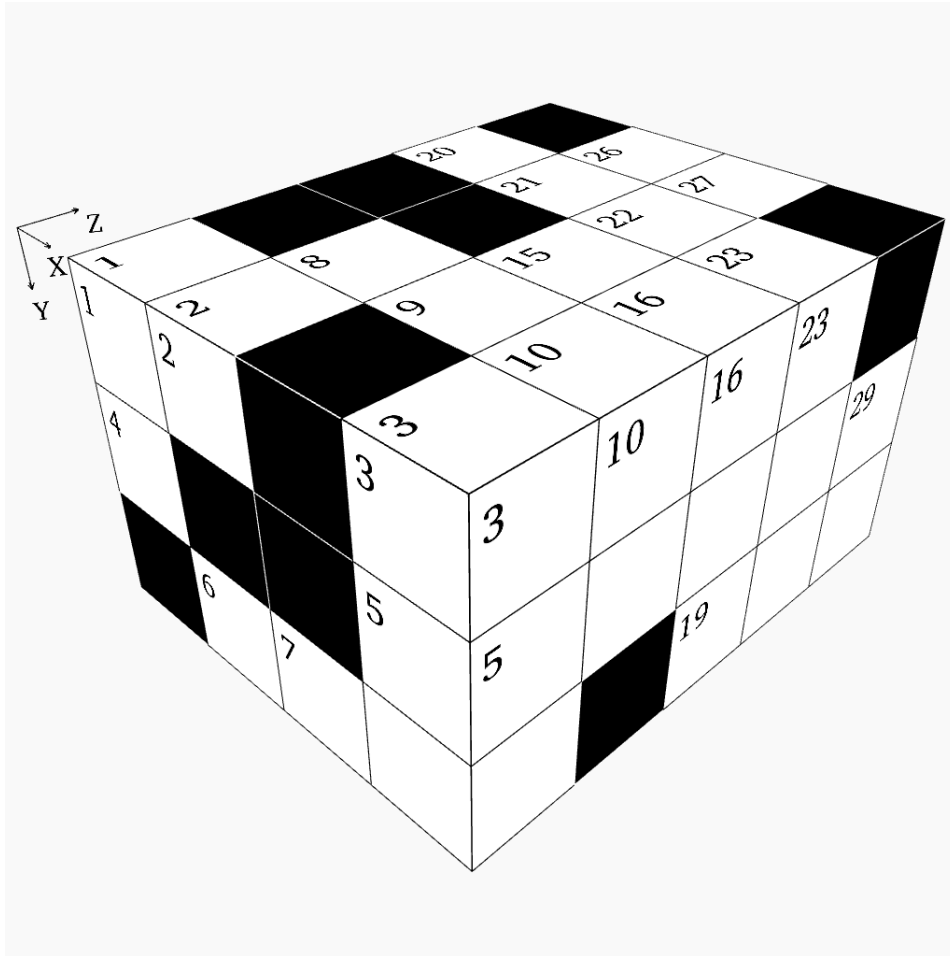


## Box - Challenging Puzzle #22



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

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

#### X Direction

- 1 A cube
- 6 Z12 minus Z13
- 8 X17 plus Y17
- 11 Four times a prime number
- 14 X15 plus Y17
- 15 Z21 plus Y10
- 17 Thirty times a prime number
- 18 A cube
- 20 Mean of X14 and Z3
- 24 Fifteen times a prime number
- 25 Y11 times Y1
- 26 Y27 minus Y20
- 28 Twenty-one times a prime number
- 30 Z14 plus Y17

#### Y Direction

- 1 A cube
- 3 Its digits total Y29
- 8 Y22 minus Y28
- 9 Fifty-three times Y20
- 10 Y16 minus Z4
- 11 X25 divided by X1
- 15 Twelve times a prime number
- 16 A prime number
- 17 X30 minus Z24
- 20 X20 divided by X14
- 21 Four times a prime number
- 22 Forty-seven times Z24
- 23 Half of X8, then subtract Z24
- 26 Mean of Z24 and Y9
- 27 Mean of Y1 and Z21
- 28 Consecutive digits in descending order
- 29 A square

#### Z Direction

- 2 Mean of Z21 and X15
- 3 Mean of Z7 and Z21
- 4 Y27 plus Y10
- 5 Last three digits are the same as last three digits of X28
- 6 Ninety-seven times a prime number
- 7 Y16 times Z21
- 9 Z19 times X26
- 12 Fourteen times X17
- 13 Two hundred sixty-six less than X18
- 14 Y22 divided by forty-seven
- 19 Y20 times Y29
- 21 Mean of X30 and Y27
- 24 X15 reversed

