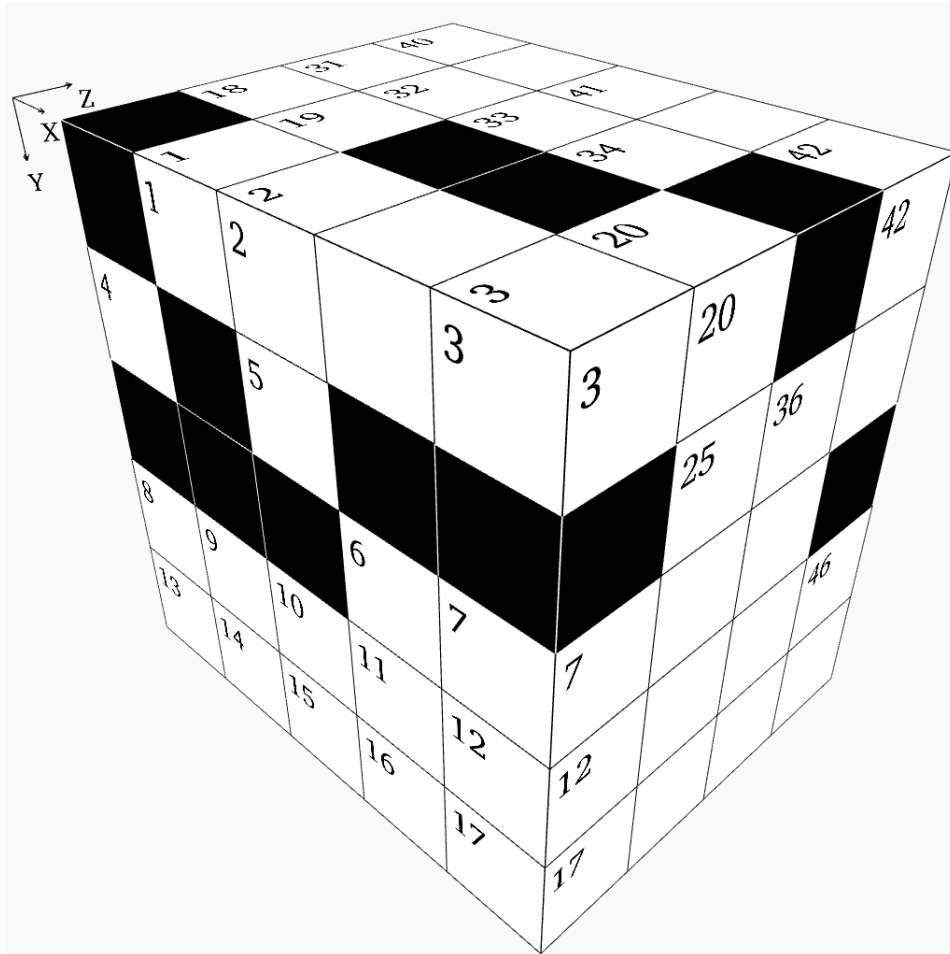


## Box - Hard Puzzle #37



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	18	19			20	31	32	33	34	
4		5			21	22	23	24	25	35				36
			6	7	26	27	28			37				
8	9	10	11	12	29					38				
13	14	15	16	17	30					39				
					40		41		42					
					43		44							
					45				46					
					47									

**X Direction**

- 1 Sixty-five times a prime number
- 6 X18 minus Z3
- 8 A prime number
- 13 A palindrome
- 18 Three times Z34
- 21 Four hundred fifty-three more than X13
- 26 Six times a prime number
- 29 Sixty-one times a prime number
- 30 Y36 times X6
- 31 X1 minus Z6
- 35 Mean of X39 and Z26
- 37 Twenty-seven times a prime number
- 38 Z27 divided by nine
- 39 Fifty-two times a prime number
- 40 Z18 times Y40
- 43 Z18 minus Y34
- 45 A prime number
- 47 Thirteen times a prime number

**Y Direction**

- 2 X38 minus Y40
- 6 Three times a prime number
- 7 Y43 plus X43
- 8 Y7 divided by thirteen
- 9 X38 minus Z24
- 10 Z11 minus Z34
- 18 Twenty-two times a prime number
- 19 Two thousand three hundred sixty-seven more than X37
- 20 Mean of X13 and Z8
- 23 Twenty-one times a prime number
- 24 Thirty-nine times a prime number
- 31 A cube
- 32 Twice a prime number
- 33 Sixteen times Z3
- 34 Y44 minus Z33
- 36 Eight times a prime number
- 40 Mean of X6 and Z22
- 41 Twice a prime number
- 42 Five times X6
- 43 Y19 divided by Y34
- 44 Z12 minus Z9
- 45 Z22 plus Z3
- 46 Mean of X18 and X38

**Z Direction**

- 1 Z9 plus Y23
- 3 Y46 minus Y10
- 4 Z25 plus Z27
- 5 Ten times a prime number
- 6 Z15 plus Y9
- 7 Seven times a prime number
- 8 Nine times a prime number
- 9 Forty-six more than Z4
- 10 Z3 minus Z34
- 11 Mean of Z10 and Y2
- 12 Forty-one times a prime number
- 13 Mean of Z5 and Z15
- 14 Fifty-eight times Z10
- 15 Z16 plus X18
- 16 Z14 plus Y10
- 17 A prime number
- 18 X40 divided by Z26
- 22 Mean of X6 and Y10
- 24 Y42 minus Z22
- 25 Five times a prime number
- 26 X38 minus Y2
- 27 Z18 plus Z3
- 28 X21 minus X8
- 33 Z24 plus Z22
- 34 Mean of X6 and Z10

**Solution:**

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

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