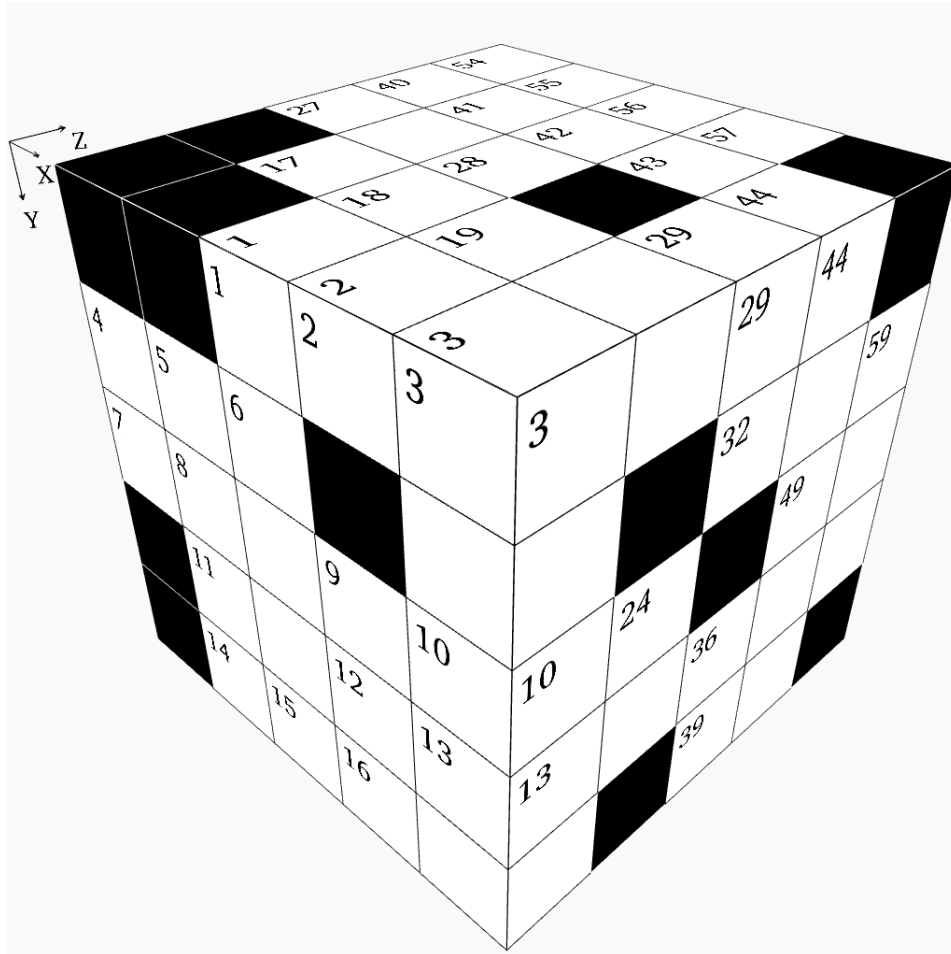


## Cube - Hard Puzzle #36



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

40	41	42	43	44	54	55	56	57	
45	46				58				59
47		48		49	60				
50		51			61			62	
52		53			63				

### X Direction

- 1 Y36 plus Z5
- 4 Half of Z6, then subtract Z7
- 7 Three times a prime number
- 11 Twice a prime number
- 14 One hundred twenty more than X17
- 17 Twice a prime number
- 20 Nine times a prime number
- 22 Z15 minus Z10
- 23 Z39 plus Y20
- 25 X23 minus Z5
- 26 Z26 plus half of X30
- 27 Half of Z13, then subtract X40
- 30 Rearranged digits of X52
- 33 Y18 plus Z48
- 35 Y36 minus Y57
- 37 Z46 plus Z2
- 38 Z10 plus X35
- 40 A prime number
- 45 Eighteen thousand seven hundred eight less than Y42
- 47 Six thousand three hundred twenty-four more than Y40
- 50 Last two digits are the same as last two digits of Z4
- 52 Seventeen times Z5
- 54 Thirty-nine times Y36
- 58 Five times a prime number
- 60 A prime number
- 61 X50 plus Y55
- 63 A prime number

### Y Direction

- 1 Last two digits are the same as last two digits of X14
- 3 Twice a prime number
- 4 X33 minus Y24
- 5 Mean of Z9 and X54
- 9 Twice a prime number
- 17 Eleven times a prime number
- 18 X37 minus Z15
- 19 Twice the result of Y56 plus Y34
- 20 Y29 minus Y36
- 24 Z39 divided by seven
- 27 Mean of Z10 and X52
- 28 X23 minus Y18
- 29 Y20 plus Y62
- 31 Twice a prime number
- 34 Nine times a prime number
- 36 Y28 reversed
- 40 Twenty-eight times a prime number
- 41 Rearranged digits of Y54
- 42 Seventeen times a prime number
- 43 X11 plus X1
- 44 Fourteen thousand two hundred fourteen more than Y55
- 54 Two thousand nine hundred sixty-seven less than X50
- 55 Twice a prime number
- 56 Five times a prime number
- 57 Mean of X37 and Z46
- 59 X27 plus Z5
- 62 Z48 minus Y24

### Z Direction

- 1 Mean of Y54 and X52
- 2 Z15 minus Y24
- 3 Y17 divided by X22
- 4 X47 plus half of Y44
- 5 X1 minus Y62
- 6 Nine thousand one hundred seventy-two more than Y40
- 7 Twice a prime number
- 8 Half of Y3, then subtract X7
- 9 Four hundred eighty less than Z26
- 10 Y17 divided by Z3
- 11 Y9 times Z53
- 12 Twice a prime number
- 13 Twelve times a prime number
- 14 Twice a prime number
- 15 Sum of digits in Z32
- 16 X37 times Z2
- 17 Four times a prime number
- 21 Seventeen times a prime number
- 26 Eight hundred fifty-seven less than X14
- 27 Mean of X4 and Y24
- 32 Five times a prime number
- 39 X33 minus Z15
- 43 Z15 plus Y57
- 46 Mean of Y24 and X25
- 48 X37 plus X25
- 49 Y62 minus X38
- 50 Z5 minus Z15
- 51 Z5 plus Y18
- 53 Z43 plus Z15

**Solution:**

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

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