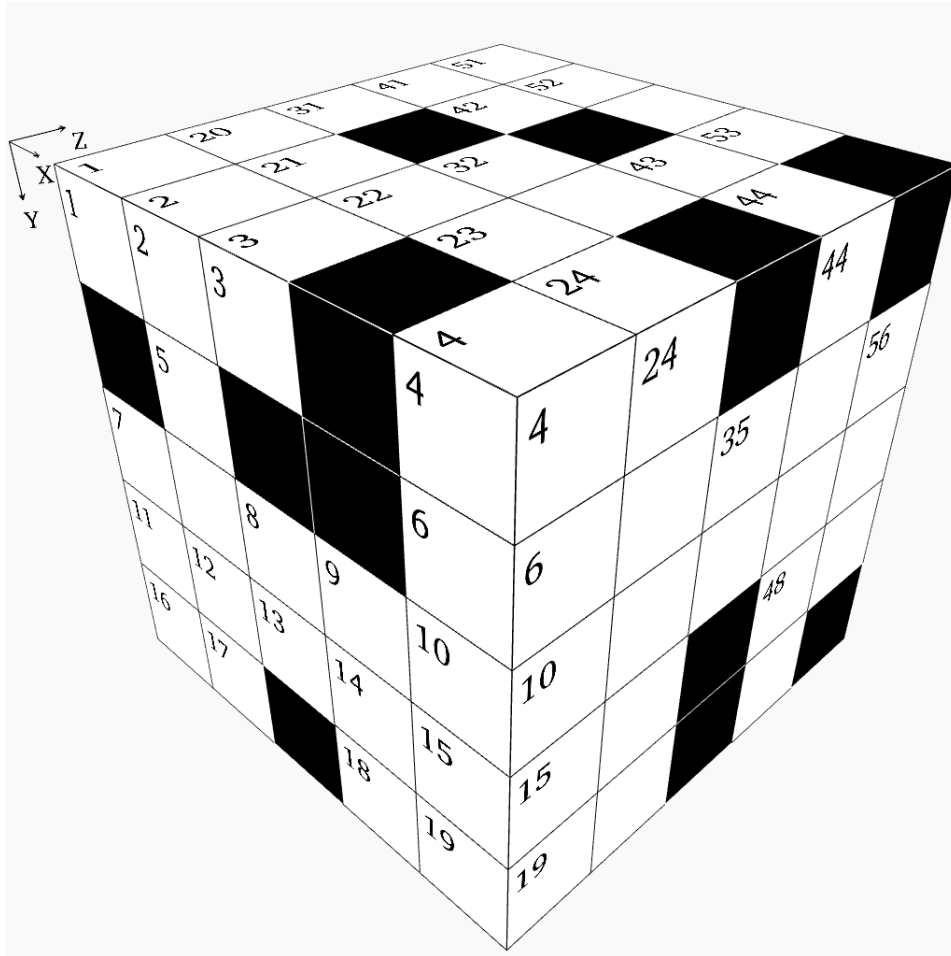


## Cube - Challenging Puzzle #15



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	4	20	21	22	23	24	31	32		35
5	6	7	8	25		26			33	34		35
7		8	9	10		11		12	36	37		38
11	12	13	14	15	27	28		29	39			40
16	17	18	19	30					40		41	42
41	42	43	44	51	52		53	54				
45			46	54		55	56					
46		47	48	57		58						
49	50	47	48		59							
49		50	51	60								61

### X Direction

- 1 Mean of Z12 and Z3
- 7 Twice the result of Y20 minus X32
- 11 Z6 plus half of X49
- 16 Mean of Y47 and Y23
- 18 Z15 plus Z4
- 20 Mean of Z7 and X45
- 25 X60 times Y29
- 27 A prime number
- 30 Forty times a prime number
- 32 Mean of X46 and Z3
- 33 Twice a prime number
- 36 Z5 plus Y22
- 39 Sixty-four times Y21
- 40 Sum of digits in Y4
- 41 Z42 minus Z50
- 43 Mean of X16 and Z19
- 45 Z18 minus Y23
- 46 Five times X55
- 47 Twenty-seven times Z15
- 49 Y7 minus X16
- 51 Z8 times Z15
- 54 Z15 plus Y21
- 55 X41 minus Y47
- 57 Y51 plus Y58
- 59 Y41 plus X41
- 60 X25 divided by Y21

### Y Direction

- 2 First two digits are the same as first two digits of X45
- 4 Rearranged digits of X11
- 7 Twice the result of X47 plus X54
- 8 X43 plus X16
- 9 Y23 plus Y41
- 20 Twice a prime number
- 21 Mean of Z3 and X41
- 22 Thirty-two times a prime number
- 23 Mean of Z4 and Y35
- 24 Ten times a prime number
- 28 Mean of Z3 and Z15
- 29 X39 divided by sixty-four
- 31 Z10 minus half of Z19
- 32 Forty-nine times a prime number
- 34 Twenty-two times a prime number
- 35 Y41 divided by four
- 38 A prime number
- 41 Y9 minus Y28
- 42 Z48 times X55
- 44 Mean of X57 and Z26
- 47 X18 reversed
- 51 Its digits total X43
- 52 Ten times X54
- 53 Twenty-four times a prime number
- 56 Rearranged digits of X1
- 58 Ten times a prime number

### Z Direction

- 1 Twice a prime number
- 2 Y29 minus Y47
- 3 X54 plus X43
- 4 Mean of Y29 and X40
- 5 Last two digits are the same as last two digits of Y42
- 6 Three hundred forty-nine more than X25
- 7 Four thousand eight hundred sixty-one less than Z17
- 8 Same as Z11
- 10 A prime number
- 11 X51 divided by Z15
- 12 Z18 minus Y28
- 13 A prime number
- 14 Z13 minus half of X16
- 15 X54 minus Y29
- 16 Three times a prime number
- 17 Four thousand twenty-three less than Z6
- 18 Y28 plus X45
- 19 Y8 minus X18
- 23 One thousand seven hundred twenty-two less than Y32
- 25 Two hundred six less than X51
- 26 Y38 minus Z19
- 37 Ten times X54
- 42 X43 plus X46
- 48 X54 minus Z19
- 50 X43 plus Y47

**Solution:**

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

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