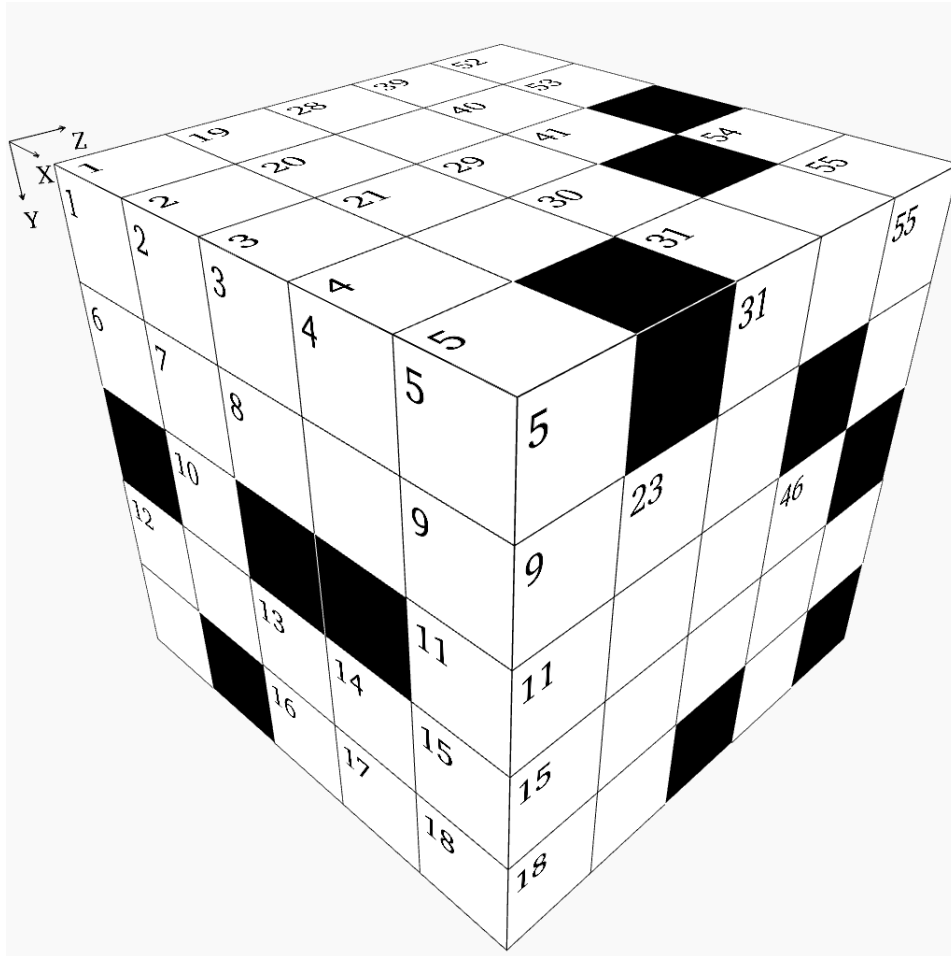


Cube - Hard Puzzle #34



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

39	40	41			52	53		54	55
42	43				56		57		
44	45			46	58				
47		48	49		59				
	50		51				60		

X Direction

- 1 A prime number
- 6 A prime number
- 12 One thousand five hundred forty-four more than X1
- 16 Y20 minus Y4
- 19 Mean of Y39 and Z4
- 22 X44 plus Z10
- 24 Ten times Z24
- 27 First three digits are the same as Z36
- 28 First two digits are the same as Z26
- 32 Mean of X38 and X16
- 34 Y29 minus Z9
- 35 Mean of Y4 and Z51
- 37 Mean of Y49 and Z17
- 38 Sixty-six times a prime number
- 39 Mean of Z7 and Z27
- 42 Twenty-nine times a prime number
- 44 Z27 minus Y4
- 47 Fifty-five times a prime number
- 50 Twice a prime number
- 52 Y49 plus Y1
- 54 Y49 plus Y14
- 56 Fifty times a prime number
- 58 X16 times Y12
- 59 Forty-seven times a prime number
- 60 Y36 minus Z43

Y Direction

- 1 X38 divided by Y3
- 2 Y19 minus Z4
- 3 X35 minus Y1
- 4 Y55 plus Z45
- 5 Mean of X12 and X27
- 12 X44 divided by seventy-two
- 13 Mean of Y1 and X54
- 14 Mean of Z26 and Z13
- 19 Mean of X42 and Z33
- 20 X52 times Y12
- 21 Twenty-two thousand four hundred thirty less than X47
- 23 A prime number
- 28 Eight times a prime number
- 29 Mean of Y20 and X32
- 30 Thirteen times a prime number
- 31 Fifty-four times a prime number
- 36 Z31 minus X32
- 39 Seven times a prime number
- 40 Ninety-four times a prime number
- 41 Eight thousand two hundred twelve less than Y54
- 46 Forty-six times Y12
- 49 Z10 minus Z45
- 52 Half of Y54, then subtract Y29
- 53 Twelve times a prime number
- 54 Seventeen thousand two hundred thirty-seven less than Y21
- 55 X60 minus Z13
- 57 Fourteen times a prime number

Z Direction

- 1 Eight times a prime number
- 2 Its digits total Y49
- 3 A square
- 4 Nine times a prime number
- 6 X6 minus X39
- 7 Y30 minus half of Y31
- 8 Z15 plus half of Y41
- 9 X35 plus half of Z10
- 10 X38 divided by Y1
- 11 Five times a prime number
- 12 One thousand three hundred eighty less than Z6
- 13 Z37 minus half of Y46
- 15 Last two digits are the same as last two digits of Z31
- 16 Two thousand six hundred thirty-seven more than Z2
- 17 Y20 divided by six
- 18 A square
- 24 A palindrome
- 25 Sixty-nine times a square
- 26 Mean of Y1 and X54
- 27 Y12 plus X22
- 31 Y53 minus Z11
- 33 Z31 minus Z17
- 36 X44 plus Z7
- 37 X34 minus Y1
- 43 Z16 divided by Z36
- 45 Z9 minus X60
- 48 X28 divided by Z27
- 51 Z17 plus Y55

Solution:

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

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