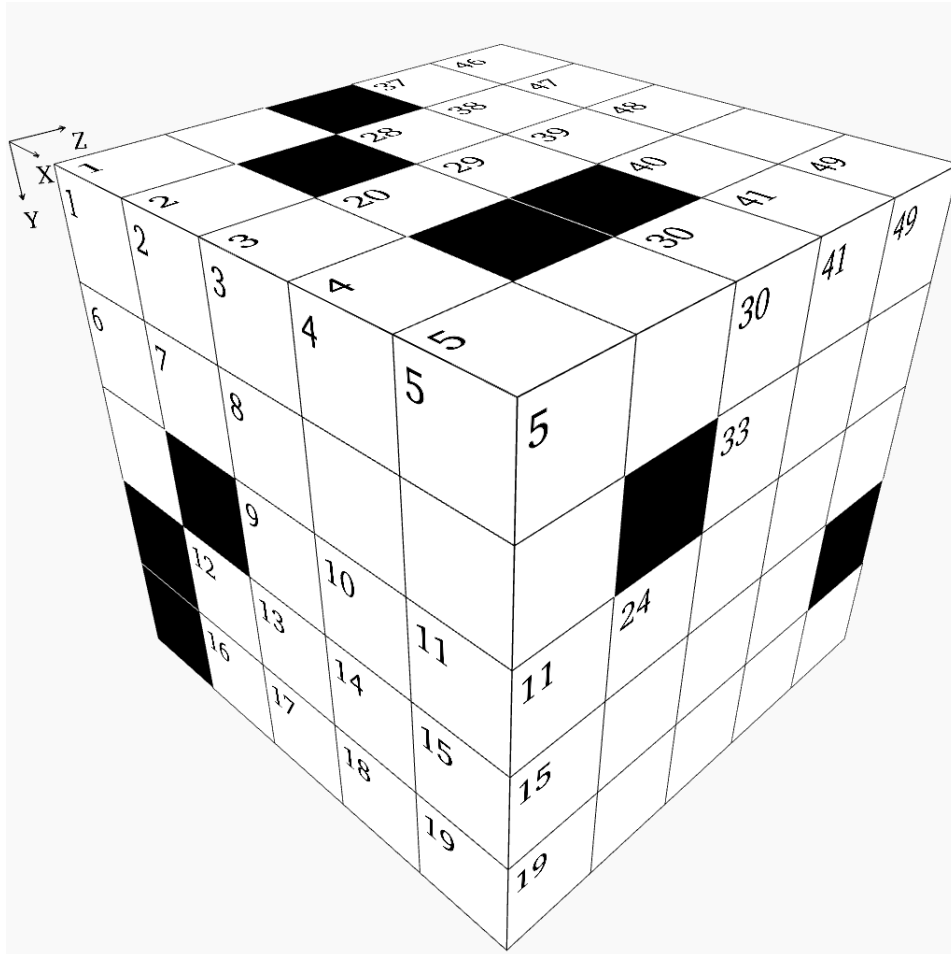


Cube - Challenging Puzzle #36



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

37	38	39	40	41	46	47	48		49
	42				50				
43					51			52	
44		45			53				
					54				

X Direction

- 1 Thirty-two times a prime number
- 6 Three times a prime number
- 9 Five times a prime number
- 12 Half of X54, then subtract Y3
- 16 A prime number
- 21 Mean of Y26 and Z45
- 22 Mean of Y25 and Y23
- 25 One thousand nine hundred eighty-one less than Z14
- 27 Four thousand six hundred fifty-eight more than X43
- 28 Half of Z17, then subtract Z33
- 31 Sixteen times a prime number
- 34 Twice the result of Z15 plus Y24
- 35 X36 divided by thirty-four
- 36 Y12 times Z45
- 37 Twice a prime number
- 42 Two thousand nine hundred twenty-eight less than Y4
- 43 Mean of Y47 and Z43
- 44 Last two digits are the same as last two digits of Z15
- 46 X37 plus Y49
- 50 Thirty-nine times Z18
- 51 X25 plus half of Y23
- 53 Thirty-eight times a prime number
- 54 Four times a prime number

Y Direction

- 1 X9 minus X36
- 2 Z40 reversed
- 3 Three times a prime number
- 4 Twenty-seven times a prime number
- 5 A prime number
- 12 Y24 divided by X28
- 20 Mean of Y48 and Z32
- 23 Twenty times Z43
- 24 Y49 minus Y29
- 25 X35 plus Z45
- 26 Z34 minus Y24
- 28 Forty-seven times a prime number
- 29 A prime number
- 30 Twelve thousand nine hundred seventy-three less than Z11
- 32 Z32 plus Z34
- 38 A prime number
- 39 A prime number
- 40 Sixty-two times Y25
- 41 Thirty-four times a prime number
- 43 Twice a prime number
- 46 X22 times Z45
- 47 First two digits are the same as first two digits of X16
- 48 Three times a prime number
- 49 Z1 plus Z17
- 52 Twice a prime number

Z Direction

- 1 Z5 divided by Z16
- 3 Y4 plus Y1
- 5 X12 plus Y20
- 7 X44 minus Y32
- 8 Twenty-three times a square
- 9 Five times a prime number
- 10 Fourteen thousand six hundred twenty-eight more than X6
- 11 Thirteen thousand two hundred fifty-seven more than X27
- 12 X16 plus half of X1
- 13 Y2 minus Z37
- 14 Twice a prime number
- 15 X54 minus X31
- 16 Rearranged digits of Y24
- 17 Twenty-six times Z44
- 18 Y23 divided by seventy
- 19 A square
- 27 Twice the result of Z14 minus Z11
- 28 A prime number
- 32 Y2 plus X21
- 33 A prime number
- 34 Nineteen times X28
- 37 Mean of Z18 and Z13
- 40 X28 minus Z18
- 43 X35 plus Y12
- 44 X21 minus Y2
- 45 A square

Solution:

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

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