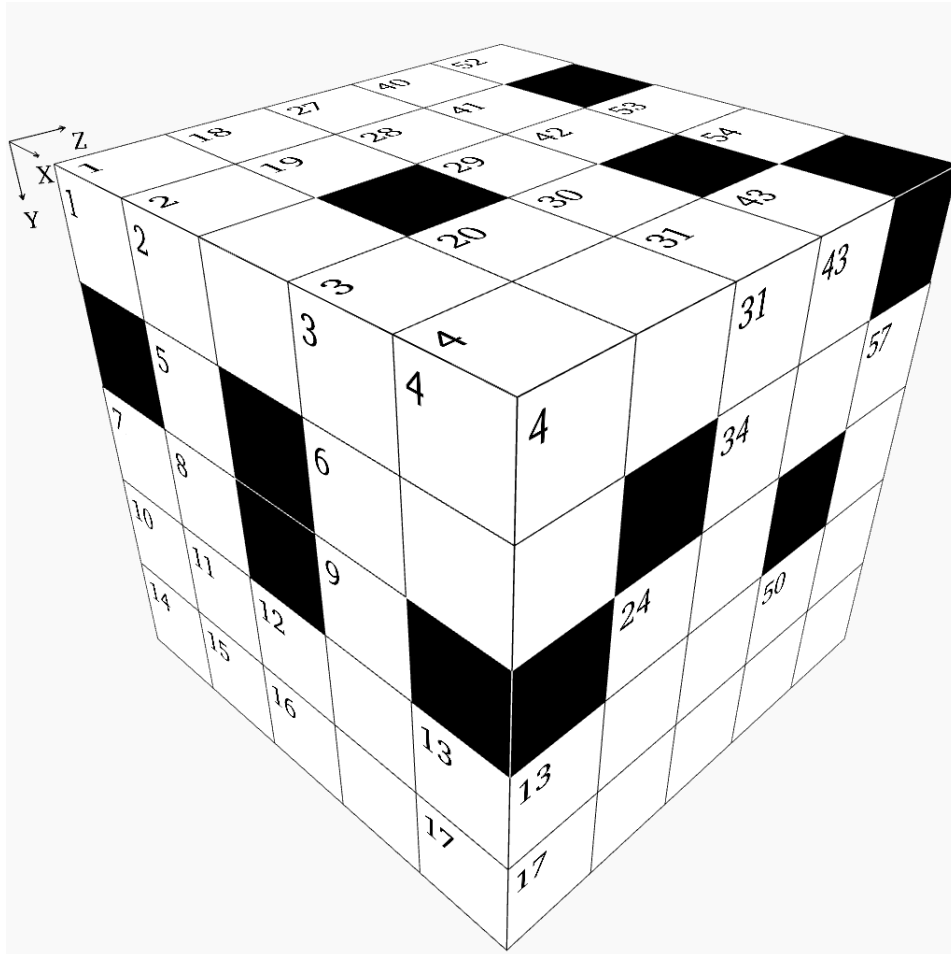


Cube - Hard Puzzle #23



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

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

X Direction

- 1 Y41 times Y23
- 6 Y4 minus Z45
- 7 Same as X46
- 10 Its digits total Y13
- 14 Thirty-nine times a prime number
- 18 Y4 minus Z24
- 20 Mean of Y4 and Z39
- 21 Same as Z45
- 22 Twenty-two thousand three hundred twenty-eight less than Y27
- 25 Y42 minus Z14
- 26 X48 minus Y43
- 27 A prime number
- 32 Same as X21
- 33 Y2 minus Y31
- 35 Twice a prime number
- 37 X44 minus X59
- 38 Mean of Y40 and Y54
- 40 Mean of Y52 and Y43
- 44 A prime number
- 46 X59 divided by X18
- 48 Y18 plus X18
- 51 Z9 minus Y56
- 53 X20 minus Y13
- 55 First two digits are the same as first two digits of Z2
- 58 Nineteen times a prime number
- 59 Twice the result of Y36 minus X20

Y Direction

- 2 Y31 plus Y43
- 3 Fourteen times a prime number
- 4 Y41 plus X18
- 7 Z49 plus Y12
- 12 X33 plus Z24
- 13 Half of Y41
- 18 A prime number
- 19 Four times a prime number
- 20 Y19 minus Z15
- 23 X1 divided by Z24
- 24 Rearranged digits of X44
- 27 Z17 minus half of X35
- 28 Mean of X27 and Z16
- 30 Five times Y7
- 31 Twenty-one times a prime number
- 36 Mean of Z34 and Y43
- 40 Seven times a prime number
- 41 Half of Z6, then subtract Y7
- 42 Z14 plus X46
- 43 Y12 minus Y41
- 47 Consecutive digits unordered
- 50 Twice a prime number
- 52 Mean of X6 and X37
- 53 Z9 minus half of Y3
- 54 Last two digits are the same as last two digits of Y30
- 56 Half of Z34, then subtract X26
- 57 Twenty times a prime number

Z Direction

- 1 Two thousand nine hundred forty-seven less than Y2
- 2 Three times a prime number
- 3 Y41 plus X40
- 4 Two thousand one hundred forty-six less than Y57
- 5 Twenty-one times a prime number
- 6 Twenty-two times a prime number
- 7 Twice a prime number
- 8 Y23 minus Y50
- 9 Rearranged digits of X10
- 11 A cube
- 12 Five times a prime number
- 13 First two digits are the same as Y13
- 14 Y42 minus X7
- 15 A prime number
- 16 Y23 plus Z21
- 17 Eighty times a prime number
- 21 First two digits are the same as first two digits of Y18
- 23 Y57 minus Z34
- 24 Mean of X21 and Y43
- 29 Y23 minus Z39
- 34 Four times a prime number
- 37 Mean of Y41 and X33
- 39 Z21 divided by X6
- 45 Twice the result of Y12 minus Y4
- 49 Mean of Y12 and X33

Solution:

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

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