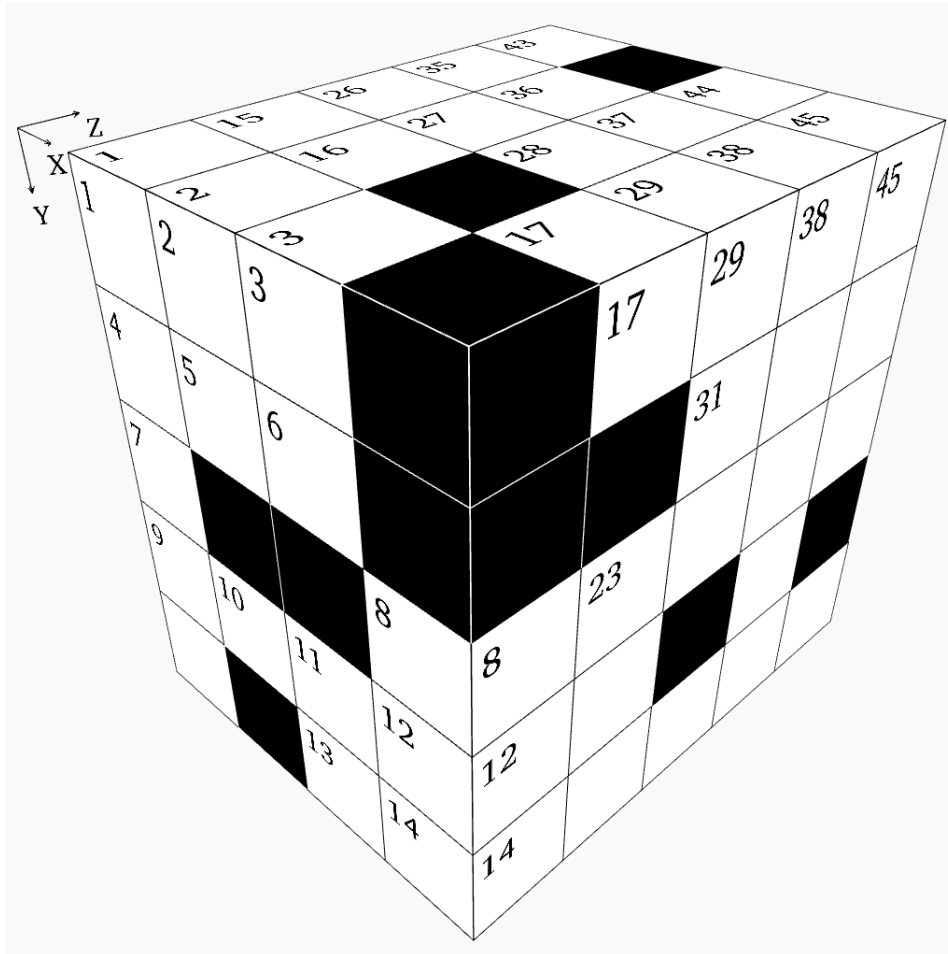


Box - Challenging Puzzle #64



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 box pictured above and divide it into individual X-Y layers, we will get these planes:

1	2	3		15	16		17	26	27	28	29
4	5	6		18		19		30			31
7			8	20	21	22	23	32			
9	10	11	12	24				33			
		13	14		25			34			

35	36	37	38	43		44	45
39				46	47		
40				48			
	41				49		
42							

X Direction

- 1 Three times a prime number
- 4 Two-fifths of X40
- 9 One thousand six hundred four more than Z17
- 13 Mean of Y3 and X15
- 15 Z25 divided by Z12
- 18 Half of Y15, then subtract X39
- 20 Z25 plus X4
- 24 One thousand one hundred sixty-two less than X42
- 25 Thirteen times a prime number
- 26 A prime number
- 30 Mean of X20 and Y29
- 32 Twenty-eight times a prime number
- 33 Twelve times X49
- 34 Consecutive digits unordered
- 35 A prime number
- 39 Sixty-five times a square
- 40 X1 plus X25
- 41 X44 plus half of Z28
- 42 Ten times a prime number
- 44 A prime number
- 46 Mean of Z2 and Z34
- 48 Three times a prime number
- 49 Sum of digits in Y1

Y Direction

- 1 Two hundred twenty-one more than Z1
- 2 Y3 plus X15
- 3 Twice a prime number
- 8 X41 minus Y45
- 11 Z12 minus X49
- 15 One thousand one hundred eight more than X32
- 16 A prime number
- 19 Consecutive digits unordered
- 23 Consecutive digits unordered
- 26 A prime number
- 27 Twice a prime number
- 28 Z1 plus half of X24
- 29 Y35 plus Y8
- 35 A prime number
- 36 One thousand seventy-two more than Y27
- 37 Five thousand three hundred seventeen less than Y38
- 38 Forty times a prime number
- 43 X9 minus Y44
- 44 Forty-six times a prime number
- 45 A prime number
- 47 One thousand two hundred twenty-seven less than Z2

Z Direction

- 1 Eighteen thousand one hundred forty-four more than Z14
- 2 Five times a prime number
- 4 Eight times a prime number
- 5 Ninety-eight times a prime number
- 6 A prime number
- 7 Five hundred fifty-nine more than Z10
- 8 Z11 minus half of Y11
- 9 Twice the result of X4 minus Y45
- 10 First two digits are the same as first two digits of Z25
- 11 Z34 plus Z8
- 12 Y15 divided by ninety-two
- 13 A prime number
- 14 Y27 plus Y37
- 17 Mean of Z21 and X32
- 21 Twice a prime number
- 22 Nine times a prime number
- 25 First two digits are the same as first two digits of X18
- 28 Twice a prime number
- 31 X34 minus X41
- 34 Half of Y11

Solution:

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