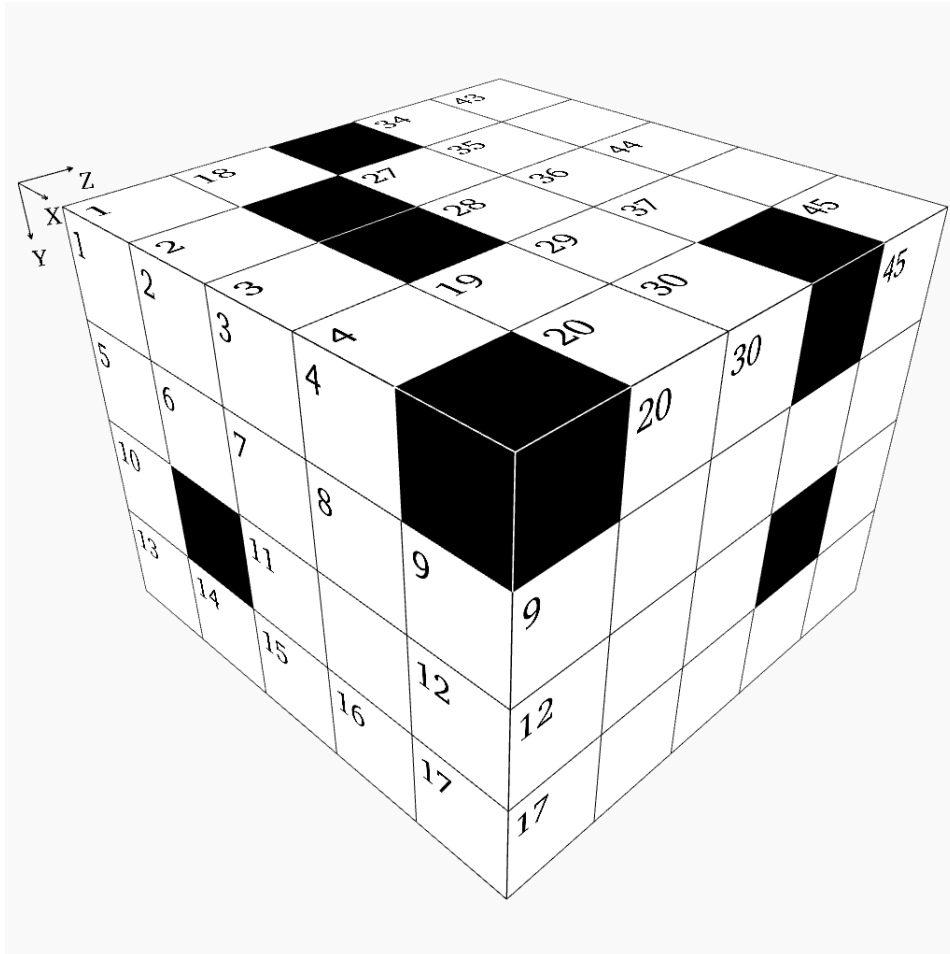


Box - Hard Puzzle #22



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

34	35	36	37		43		44		45
38									
39		40	41		46			47	
42							48		

X Direction

- 1 X27 plus Y2
- 5 Seventy-six times a prime number
- 11 Twice X24
- 13 Half of Z7, then subtract Y18
- 19 Z20 reversed
- 21 Mean of Z10 and Z25
- 24 Y9 reversed
- 26 A prime number
- 27 Ninety-four times Z1
- 31 Mean of Z16 and Y36
- 32 Y28 reversed
- 33 A prime number
- 34 Twenty-four times a prime number
- 38 X42 minus half of X11
- 39 A prime number
- 42 X38 plus X24
- 43 A prime number
- 46 Six times a prime number
- 48 Seventeen times Z20

Y Direction

- 1 Z40 plus Y20
- 2 A prime number
- 3 Twice a prime number
- 4 Mean of Y1 and X39
- 9 X24 reversed
- 18 Six times a prime number
- 19 X24 minus X48
- 20 Mean of Y27 and Z33
- 22 A prime number
- 23 Mean of X27 and Z11
- 27 Twenty-nine times a prime number
- 28 X32 reversed
- 29 Y31 minus X32
- 30 A prime number
- 31 Fifteen times a prime number
- 34 Y35 minus Y1
- 35 Thirty-seven times a prime number
- 36 Mean of Y34 and X24
- 37 Three times a prime number
- 43 A prime number
- 44 Three hundred seventy-nine more than X39
- 45 A square
- 47 Z27 minus Y29

Z Direction

- 1 Z40 minus Z11
- 4 Sixteen thousand nine hundred fifty less than X43
- 5 A prime number
- 6 A prime number
- 7 One thousand three less than X43
- 8 X26 minus Z28
- 9 Eight thousand seven hundred thirty-six more than Z4
- 10 Ten thousand sixty-four more than Z16
- 11 Mean of Z20 and Y47
- 12 Z27 plus Y29
- 14 A prime number
- 15 X43 plus half of Y19
- 16 Seven hundred two less than X13
- 17 Thirty-four times a prime number
- 20 X19 reversed
- 25 Eight times a prime number
- 27 Half of X34, then subtract Y30
- 28 Mean of Y20 and Y29
- 33 Last two digits are the same as last two digits of Y30
- 34 Z41 plus Z1
- 40 Z11 reversed
- 41 X5 divided by Y9

Solution:

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

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