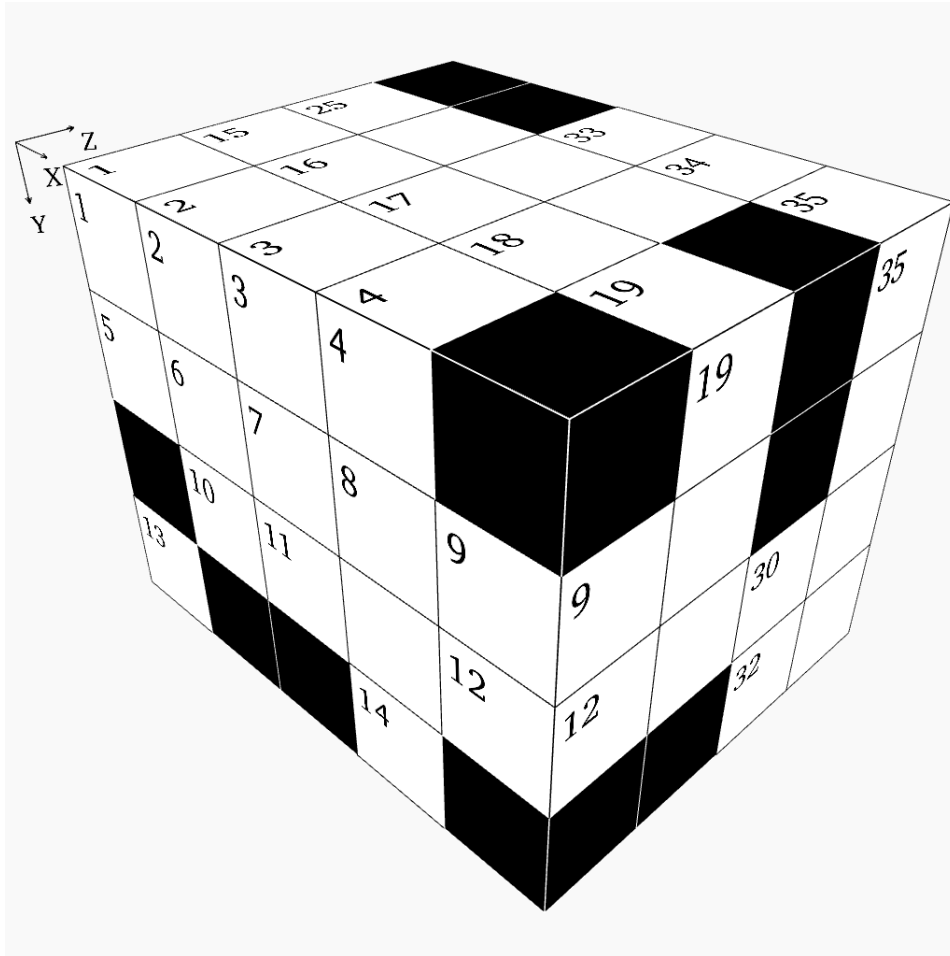


Box - Challenging Puzzle #29



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

X Direction

- 1 Seventy-seven times a prime number
- 5 A prime number
- 10 A prime number
- 15 First three digits are the same as X21
- 20 Last two digits are the same as last two digits of Z10
- 21 X33 minus Y30
- 22 A prime number
- 25 Half of Y33, then subtract Z3
- 26 Thirty-seven times X39
- 31 X22 plus half of Y16
- 33 X21 plus Z29
- 36 Eight thousand one hundred forty-four more than X26
- 38 A prime number
- 39 Y30 times Y28

Y Direction

- 1 Mean of Y30 and Z8
- 2 Z9 plus Z2
- 3 A prime number
- 4 Sixty-four times a prime number
- 9 Y19 divided by twenty-three
- 15 Three times Y35
- 16 Eighty-eight times Z23
- 17 Twice a prime number
- 18 Y27 minus Y28
- 19 X36 minus half of X15
- 25 Y35 minus Z1
- 27 Mean of Y30 and Y3
- 28 X39 divided by Z29
- 29 Z7 reversed
- 30 Same as Z29
- 33 Seventy-six times a prime number
- 34 Twenty-one times Y36
- 35 A prime number
- 36 Y19 plus Y30
- 37 Y27 minus Y9

Z Direction

- 1 Y36 plus Z23
- 2 Y2 minus Y18
- 3 Y25 minus Y17
- 4 One thousand five hundred seventy-seven more than Z10
- 5 Ninety-seven times Z8
- 6 X21 minus Y2
- 7 Half of X33, then subtract Y36
- 8 A prime number
- 9 Sum of digits in X1
- 10 Fifty-one times a prime number
- 11 Fifty-two times a prime number
- 12 Mean of Y15 and Z8
- 13 Mean of Z10 and Y25
- 14 Twice the result of Z11 plus Z32
- 21 Seven times a prime number
- 23 Y37 minus Y29
- 24 Mean of X39 and Y28
- 29 Half of Y27, then subtract Y1
- 32 Y19 divided by twenty-three

Solution:

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