## Box - Intermediate Puzzle \#47



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 $\mathrm{X}, \mathrm{Y}$, 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:


## X Direction

2 A prime number
4 A square
8 Forty-one times a prime number
11 A square
13 X17 reversed
14 Consecutive digits in ascending order
15 Nine hundred less than X4
17 Mean of Z10 and Z5

## Y Direction

1 Thirty-three times Y5
2 Same as Z2
3 Y11 plus X14
5 X14 minus Z8
11 Four times X2
12 Thirty-five times a prime number 16 Thirty-three times Z6

## Z Direction

2 Y3 plus Z9
3 Z 9 plus Y 5
5 Y2 minus Z6
6 Y1 divided by Z7
7 X14 plus Z8
8 X15 divided by Y16
9 Y2 minus Y3
10 Seven times a prime number

## Solution:

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

