## Box - Intermediate Puzzle \#15



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:

| 1 | 2 | 3 | 7 | 8 | 9 | 12 | 14 | 15 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 |  | 5 | 10 |  |  |  |  |  |  |
|  | 6 |  | 11 |  |  | 13 | 16 |  |  |

## X Direction

1 Y8 plus Z5
6 X11 minus X13
7 X14 plus half of X13
10 Twice a prime number
11 Four times a prime number
13 Consecutive digits in descending order 12 X 16 minus half of Y7
14 A prime number
16 Twice a prime number

## Y Direction

1 Y12 divided by thirty-one
3 Forty more than Y8
7 Twice a prime number
8 Fifty-three more than Z4
9 Z 2 divided by three
12 X16 minus half of Y7
15 Half of Y3, then subtract Y1

## Z Direction

1 Sixty-two times a prime number
2 Two-thirds of Y15
3 Its digits total X6
4 Z11 minus Z5
5 Half of Y15
6 Sixteen times a prime number
11 Three times a prime number

## Solution:



