## Box - Intermediate Puzzle \#13



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:


| 15 | 16 | 17 |
| :--- | :--- | :--- |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |

## X Direction

1 X10 minus Z2
5 Thirteen times a prime number
8 Y6 minus X14
10 Mean of X20 and Y2
12 Twice the result of Z1 plus X1
$14 \mathrm{Z7}$ minus half of Y3
15 Twice a prime number
18 Twice the result of X10 plus Z10
19 Twice a prime number
20 Half of Z6, then subtract X19

## Y Direction

2 Z8 minus Y13
3 Eight times a prime number
6 Y2 minus half of Z2
11 Sixty times a prime number

## Z Direction

1 Z7 plus Y12
2 Same as Z4
4 Two-fifths of Y11
5 Eleven times a prime number
12 Consecutive digits in descending order 6 X18 plus Z7
13 X12 divided by seventeen
15 Seventeen times a prime number
16 Twenty-six times a prime number
17 Forty-one times a prime number

7 Sixty-three less than X20
8 Three times Y6
9 Same as X19
10 Y11 minus X15

## Solution:

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

