## Box - Intermediate Puzzle \#28



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 | 9 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 4 | 5 |  | 10 |  |  |
| 6 |  | 7 |  |  |  |
|  |  |  |  |  |  |


| 11 |  | 12 | 16 |  | 17 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 14 | 15 |  | 13 |  |  |

## X Direction

1 Half of Y2, then subtract Z15
4 Five times a prime number
6 Mean of Y12 and Y8
8 Twelve times a prime number
10 Y12 minus Y17
11 A prime number
14 Consecutive digits in descending order 17
16 A prime number
18 Twice the result of Y17 plus Z12

## Y Direction

1 Twelve times a prime number
2 Rearranged digits of X6
3 Mean of X4 and X16
8 Thirty-eight times a prime number
9 Y17 minus X1
12 Z 13 plus Y17
$12 \mathrm{Z13}$ plus X1
"

Z Direction
1 A prime number
2 Z6 minus Z5
4 Mean of X8 and Z13
5 Same as Y9
6 Z2 plus Y9
7 Sixty-four times a prime number
12 X 1 divided by eight
13 Same as X10
15 Three times a prime number

## Solution:

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

