## Box - Intermediate 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 $\mathrm{X}, \mathrm{Y}$, 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 | 4 |
| :--- | :--- | :--- | :--- |
| 5 | 6 |  | 7 |
| 8 | 9 |  | 10 |


| 11 | 12 |  | 13 |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| 14 |  |  |  |



## X Direction

1 Twice a prime number
5 First, and second digits are the same
8 Sixty-one times a prime number
11 X5 minus half of Z9
14 Same as Y16
15 Z10 minus Z8
17 Twice a square

Y Direction
1 Z8 plus X17
2 A prime number
3 Ninety-six more than Y12
4 Z 2 minus half of Z 6
12 Y 4 minus Z 1
13 Z7 plus X14
16 Y13 minus Z7

## Z Direction

1 Y3 minus Y2
2 Z7 plus Z4
3 Fifteen times Z1
4 Twice a prime number
6 Three-fifths of X17
7 A square
8 Forty-five times a prime number 9 Nineteen times X17
10 Thirteen times a prime number

## Solution:

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

