## Cube - Intermediate Puzzle \#16



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 cube pictured above and divide it into individual X - Y layers, we will get these planes:


## X Direction

2 Six times a square
4 A prime number
6 Mean of Z5 and X2
9 Nineteen times a prime number
11 Two-thirds of Z10
13 Mean of Z2 and X14
14 Consecutive digits in descending order

## Y Direction

2 X4 minus X14
3 Z 4 minus Y2
6 Mean of Z3 and Z7
7 Ten times a prime number
8 Half of Z5, then subtract Y12
12 Twenty-six times Z1

## Z Direction

1 X2 minus X13
2 Twice a prime number
3 Fifty-eight times Z1
4 A prime number
5 X14 plus Y7
7 Four times a prime number
10 Nine more than Y3

## Solution:

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

