## Cube - Intermediate Puzzle \#10



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:


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

## X Direction

3 Same as Y7
6 First two digits are the same as Z6
9 A prime number
11 Z3 divided by Z10
13 X9 plus half of X3
14 Thirty-two times Y8

## Y Direction

1 Y5 minus half of Y11
5 Y12 minus Y11
7 Half of Z2, then subtract X6
8 A cube
11 Twice a prime number
12 Four times a prime number
13 Z2 divided by six

## Z Direction

2 Forty-four times X11
3 All digits are the same
4 Twice a prime number
6 X14 divided by forty-eight
7 Z10 plus X11
10 Twice a prime number

## Solution:

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

