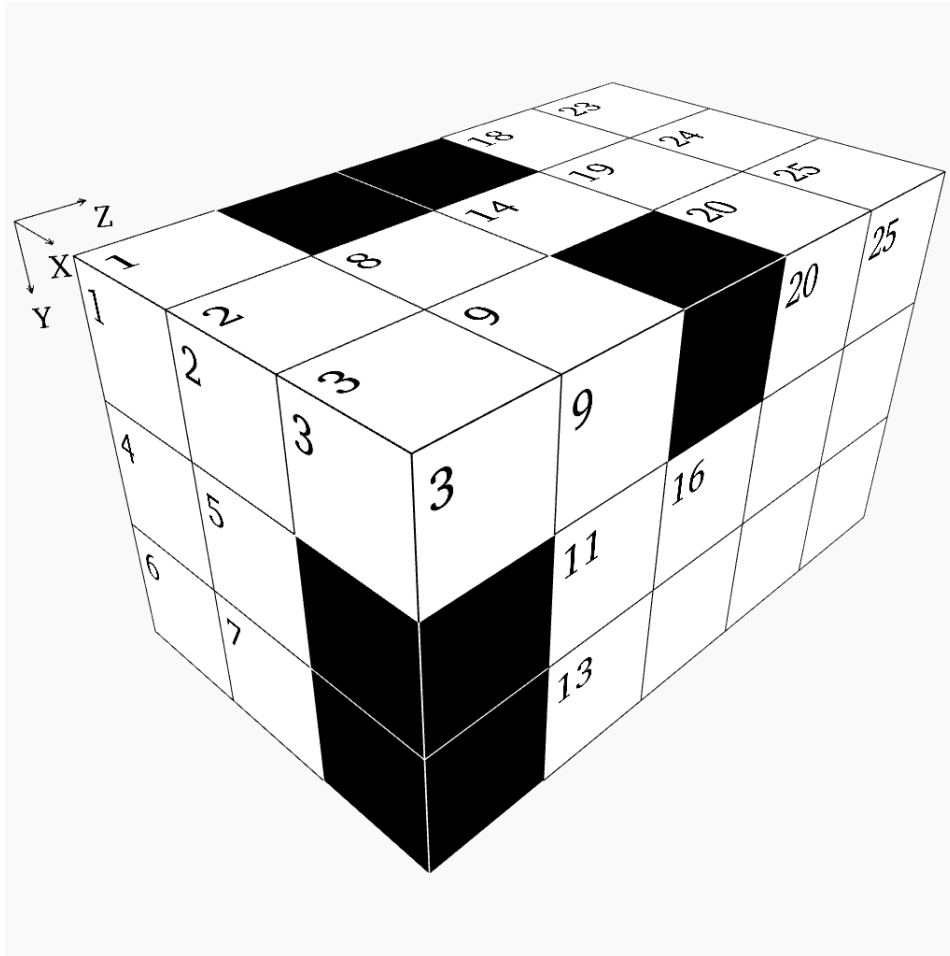# Box - Challenging Puzzle #70

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 X,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			8	9			14			18	19	20		23	24	25
4	5	■	■		10	11	15			16		21				26		
6	7	■		12		13	17					22				27		

X Direction

1 Y9 minus X26
4 Y2 minus X23
6 X21 minus X15
8 Y8 divided by nine
10 A prime number
12 X23 plus Z18
15 Y24 minus Y16
17 Rearranged digits of Y25
18 Y8 plus X21
21 A prime number
22 A prime number
23 Mean of Y15 and Y14
26 Y24 reversed
27 Thirty-six more than Y20

Y Direction

1 Y24 plus Z18
2 Mean of Y14 and Y1
8 Nine times Z3
9 Forty-four times a prime number
14 Mean of X23 and Y25
15 Z15 divided by six
16 A prime number
18 Six times a prime number
19 Twice the result of X1 plus X8
20 A prime number
23 Mean of X4 and Y20
24 A square
25 A prime number

Z Direction

2 First two digits are the same as first two digits of X23
3 Same as X8
5 Thirty-four times a prime number
6 X27 times Z15
7 Four times a prime number
11 Three times a prime number
13 Sixty-nine times a prime number
15 Mean of X21 and X10
18 X23 minus half of Y9
20 Z13 divided by Y16

Solution:

1	3	1	■	1	5	■	6	■	3	2	6	3	1	9
7	9	■	■	3	7	1	1	3	1	9	1	4	4	1
7	8	■	3	5	2	9	9	1	8	2	3	6	4	9