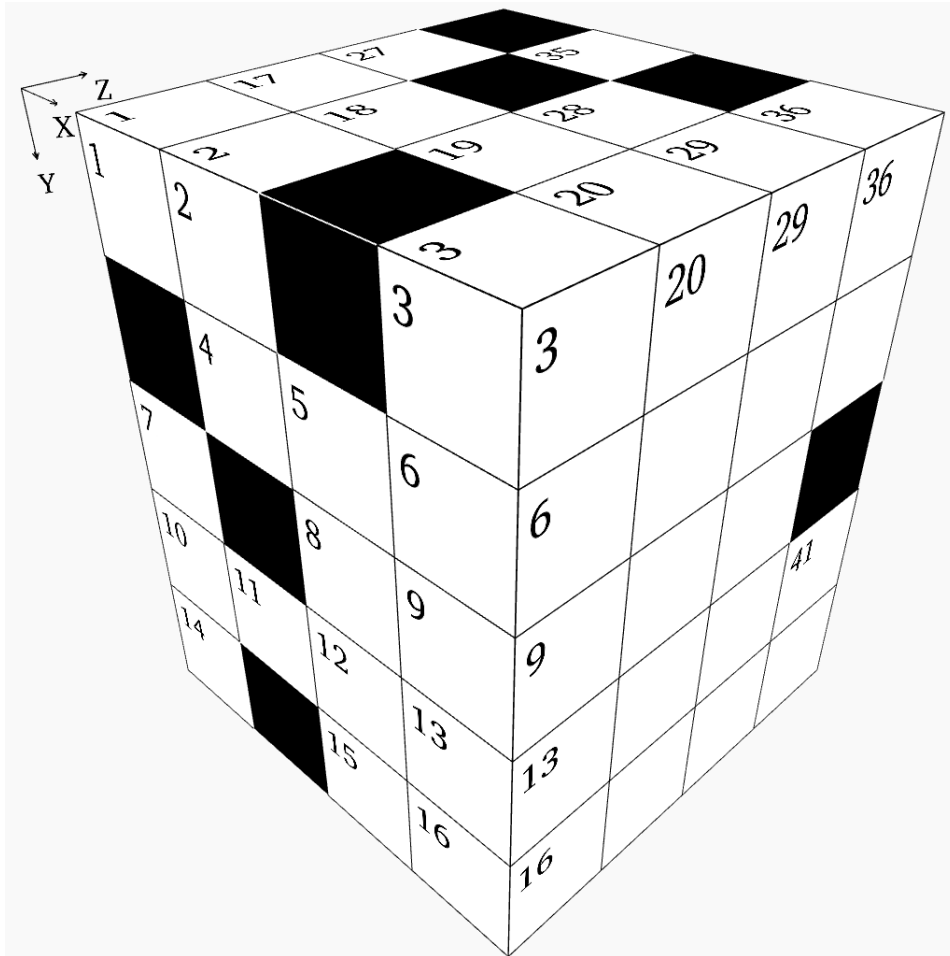# Box - Challenging Puzzle #25

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
■	4	5	6
7	■	8	9
10	11	12	13
14	■	15	16

17	18	19	20
21			
	■	22	
23	24		
25	26		

27	■	28	29
	■	■	
30	31	32	
	■	33	
34			

■	35	■	36
37		38	
39			■
	■	40	41
42			

X Direction

1 A square
4 Thirty-one times Y24
8 Z1 divided by X1
10 Twice a square
15 Y41 plus Z2
17 Twice the result of Z16 minus X15
21 Six times a square
22 A square
23 A prime number
25 Twenty-eight times Y41
28 Y38 divided by X39
30 Forty-six times a prime number
33 Same as Y36
34 Twice the result of X30 plus Y35
37 Z21 plus half of Y37
39 Twice a prime number
40 Same as Y36
42 Sixty-six times a prime number

Y Direction

2 Z4 minus X8
3 Nine thousand five hundred twenty-five less than Y29
5 A prime number
7 Six times Z31
17 Y19 plus Z26
18 Y41 minus X28
19 A prime number
20 X40 times Z6
24 X25 divided by Y2
27 Last two digits are the same as Y36
29 Last two digits are the same as last two digits of X34
32 Mean of Z26 and Z6
35 Six times a prime number
36 Y20 divided by Z6
37 Sixty-six times Y24
38 X39 times X1
41 Y37 divided by thirty-three

Z Direction

1 X8 times X28
2 Z4 minus X22
3 Y5 minus half of Y7
4 Z31 minus Y24
5 Mean of Z19 and Y41
6 Y20 divided by X33
7 Thirteen times a prime number
8 Twice a prime number
9 Mean of Z1 and Z5
10 Z6 plus Y32
11 Z13 divided by Z4
12 Five times a prime number
13 Mean of X23 and Z5
14 Nine hundred sixty-eight more than X17
15 Twenty times a prime number
16 Fourteen times a prime number
19 X15 minus Y24
21 Mean of X22 and Y37
26 X15 plus X8
31 Mean of Z19 and Z26

Solution:

2	5	■	4	7	1	7	8	5	■	2	5	■	1	■	5
■	6	5	1	7	7	7	6	0	■	■	0	1	3	9	4
5	■	1	1	2	■	1	6	1	8	8	6	3	8	6	■
2	3	1	2	4	2	3	1	5	■	5	4	8	■	5	4
8	■	9	3	1	1	7	6	4	0	4	8	6	4	0	2