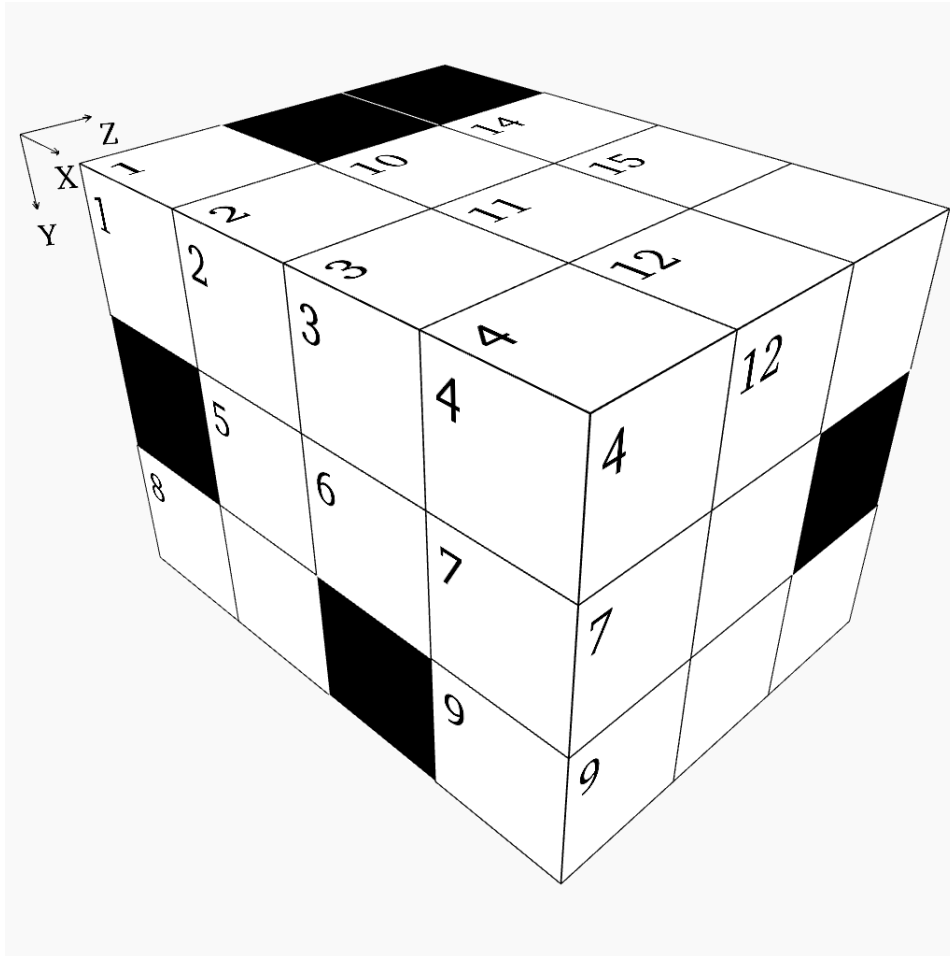# Box - Intermediate Puzzle #21

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			

X Direction

1 Twice a square
5 Twenty-one more than Y15
8 Twice the result of Z2 minus Y12
10 X14 plus Y15
13 Twelve times a prime number
14 Fourteen times Z13
16 Six times a prime number
17 Eighty-five times a prime number

Y Direction

2 Eight times a prime number
3 Half of X5, then subtract Z9
4 A prime number
10 Consecutive digits in ascending order
11 Ten times a prime number
12 A prime number
14 Mean of Y4 and Y16
15 Mean of Y10 and Z6
16 Y15 divided by Z13

Z Direction

2 Thirty-eight more than Y2
3 A prime number
4 Fourteen times a prime number
5 Y14 minus half of Y11
6 Y4 minus half of X14
7 Six times a square
9 Five times a prime number
13 X10 divided by twenty-five

Solution:

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