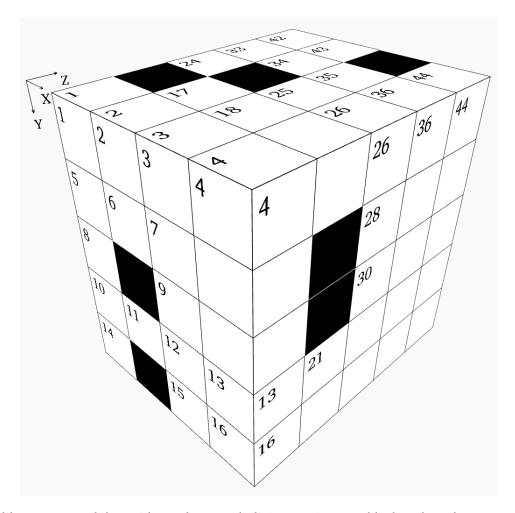


# **Box - Hard Puzzle #17**



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		17	18		24		25	26
5	6	7			19			27			28
8		9								29	30
10	11	12	13		20		21		31		
14		15	16	22	23			32			
		33	34	35	36	42	43		44		
		37				45					
		38	39			46					
		40				47		48			
		41						49			

## X Direction

- 1 One thousand nine hundred ninety-two 1 Nineteen thousand nine hundred seven 2 Mean of Y17 and Y21 more than X47
- Seven hundred eighty-two less than Z3 2 Y17 minus X42
- **9** Mean of Y31 and X42
- **10** Twenty-seven times a prime number
- 15 X1 divided by Z23
- 17 Thirty-eight times Y20
- **19** Mean of Y48 and Y17
- 20 X5 divided by Y20
- 22 X41 minus Z34
- 25 Z40 minus X46
- **27** Fifty-three times Z39
- **29** X19 minus Z39
- **31** Mean of Y24 and Z39
- **32** Six times a prime number
- **33** First two digits are the same as first two digits of Y36
- 37 X40 minus X41
- 38 X41 divided by five
- **40** Three times a prime number
- **41** X25 plus X22
- 42 X31 minus half of Z24
- **45** Twenty-nine times a prime number
- 46 Z40 minus Z34
- 47 Z6 minus half of Y26
- **49** Y21 minus Z34

#### Y Direction

- more than Y3
- **3** Twelve times a prime number
- **4** Seventeen times a prime number
- **17** All digits are the same
- 18 X40 plus Z40
- 20 Y31 reversed
- 21 X25 plus X49
- **24** Z24 minus X29
- **25** Twice the result of Z8 minus X32
- **26** First two digits are the same as first two digits of X5
- **31** X29 plus X15
- 33 Z4 minus X37
- **34** Five thousand six hundred seventy-eight less than Y4
- **35** Nineteen times a prime number
- **36** One thousand seven hundred forty-three more than Z4
- **42** Thirty-seven times a prime number
- **43** Two thousand ninety-eight less than X41
- **44** Mean of Y36 and Z39
- 48 A square

#### **Z** Direction

- **3** Twice the result of X10 plus X9
- 4 One hundred fifty-five more than Z11
- **6** Sixty-nine times a square
- 7 Mean of Y35 and Y1
- **8** Last two digits are the same as last two digits of X41
- Mean of X27 and Y42
- 11 Six thousand three hundred ninety-one more than Y25
- 12 Three thousand six hundred seventy-six less than Z6
- 13 Eleven thousand three hundred seventy-one more than Y26
- **14** One thousand three hundred forty-three more than X41
- 15 One thousand seven hundred four less than Z8
- **16** Seventeen times a prime number
- 23 X31 plus X15
- 24 Sixteen times a prime number
- 27 X31 minus X19
- **28** A prime number
- **30** Four times a prime number
- 34 Mean of Y2 and X29
- **39** Z40 minus X42
- **40** Y20 plus Y2

# **Solution:**

9	7	7	5		9	1	2	7		4	6
6	3	6	0		9	0		3	7	6	3
2		3	4	8		0		3		1	9
3	5	3	f		2	6	5		4	0	2
9		2	3	8	4	6	9	5	2	6	2
		5	4	2	5	2	6		2		
		1	4	5	4	2	4	0	Ŧ		
		1	7	0	3	5	1		2		
		9	9	6	9	7	7	8	3		
		8	5	1	5			1	3		