

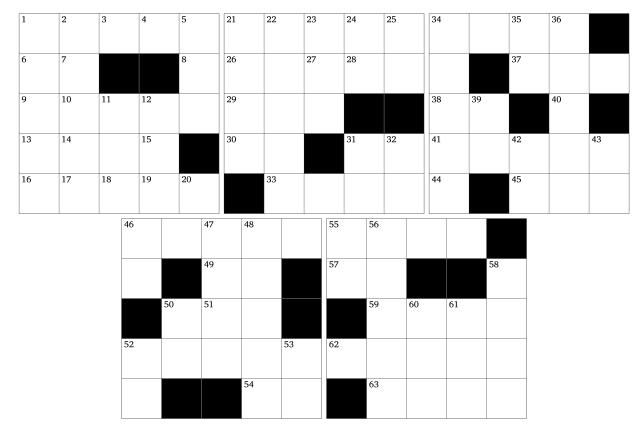
Cube - Challenging Puzzle #32

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 cube pictured above and divide it into individual X-Y layers, we will get these planes:



X Direction

- **1** Z3 minus Z10
- 6 Mean of Y31 and X54
- 9 Ninety-seven times Z9
- 13 Y35 times Z51
- **16** Twelve times a prime number
- 21 Three thousand eight hundred seventy-three less than Z19
- **26** Nine thousand two hundred
- seventy-four more than X21
- 29 Thirty-one times Z11
- 30 Y42 plus X54
- 31 A square
- **33** Nine hundred fifty-three more than Z32
- **34** A prime number
- **37** Thirty-eight times Y31
- 38 Y39 minus X6
- **41** Eight thousand nine hundred seventy-six more than Y1
- **45** Mean of Y12 and Y43
- 46 Half of Y34, then subtract X49
- 49 Z9 minus Y53
- 50 Z4 divided by Z17
- **52** Two thousand seventy-eight more than X41
- 54 Mean of Z11 and Y46
- 55 Consecutive digits unordered
- 57 Mean of X30 and X54
- **59** One thousand three hundred fifty-five **56** A prime number more than Z32
- 62 Last two digits are the same as Z44
- 63 X52 minus X1

Y Direction

- **1** Twenty-six times a prime number **2** Seven thousand two hundred
- sixty-eight more than Z4
- **5** Z28 plus Z11
- **11** Twice the result of Y61 minus Y32
- **12** X21 divided by Y60
- **21** Mean of Y58 and X13
- 22 Last two digits are the same as last two digits of Z9
- 23 Seven times a prime number
- 24 Y23 minus half of Y5
- 25 Mean of Y46 and Y50
- 31 X49 minus Z51
- **32** Mean of Y43 and X6
- **34** A palindrome
- **35** Z8 minus half of X6
- 36 X62 minus half of Z2
- 39 Mean of Y25 and Z42
- 42 Z8 divided by nine
- 43 Y24 plus X30
- 46 A cube
- **47** First three digits are the same as first three digits of Y56
- **48** Twelve times a prime number
- 50 Z42 minus X57
- **52** Z18 divided by Y31
- 53 Mean of X30 and Y39
- 55 Half of Z20, then subtract X16
- **58** Ninety-eight times a prime number
- 60 Mean of Y5 and Y55
- 61 Y46 plus Z42

Z Direction

- **1** A prime number
- **2** Last two digits are the same as last two digits of Z42
- **3** A prime number
- 4 Z7 times X50
- 5 Z51 minus Z17
- 6 Eight times a prime number
- 7 Z51 minus Z5
- 8 Mean of Y25 and Z9
- 9 Thirteen times Y42
- 10 Mean of X41 and Y22
- 11 Z51 minus Y24
- **13** Five times a prime number
- **14** Twice a prime number
- **15** Twice a prime number
- 17 Z9 divided by six
- 18 Fourteen times Y53
- 19 Three times a prime number
- **20** Two thousand six hundred sixteen
 - more than X52
- 27 Three times a prime number
- 28 Z40 minus Y12
- 32 Six times a prime number
- 40 Thirty-nine times Z11
- **42** Mean of Z9 and Y43
- 44 Y53 minus Y31
- 51 Y39 minus Z11

Solution:

3	3	9	2	4		7	7	2	5	. 6	5	4	0	9	3	
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6	9	8	4			3	5		2		5	4	1	1	3	8
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			7		٩	3			2	٩			8	;		
				٩	7	4				7	2	1	7	ł		
			4	3	2	1	6	,	5	8	2	4	2	2		
			2			2	3	;		٩	2	9	2	2		