Namo:

# Round 1: "Pop Culture"

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	Division:	Advanced	Beginne	r
1.1	Sudoku	3 points	1.10 TomTom	3 points
1.2	Sudoku	5 points	1.11 TomTom	6 points
1.3	Sudoku	9 points	1.12 TomTom	10 points
1.4	Numberlink	2 points	1.13 Scrabble	3 points
1.5	Numberlink	5 points	1.14 Scrabble	5 points
1.6	Numberlink	6 points	1.15 Scrabble	9 points
1.7	Minesweeper	2 points	1.16 Hidato	3 points
1.8	Minesweeper	3 points	1.17 Hidato	7 points
1.9	Minesweeper	7 points	1.18 Hidato*	12 points

Total: 100 points

<sup>\*</sup>Points aren't linear. Testsolvers took, on average, 4× longer on 1.18 than 1.17.

# 1.1—1.3: Sudoku

Insert a number from 1 to 9 (1 to 6 in the first puzzle) so that no number repeats in any row, column, or box.

Puzzle 1.1 (3 Points)

1	2	3			
4	5			5	1
			1	6	3

Puzzle 1.2 (5 Points)

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

Puzzle 1.3 (9 Points)

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

# 1.4—1.6: Numberlink

Draw non-intersecting paths through the centers of some cells, each connecting one clue to its equal counterpart.

(Note: all cells will be used in the final solutions to these puzzles.)

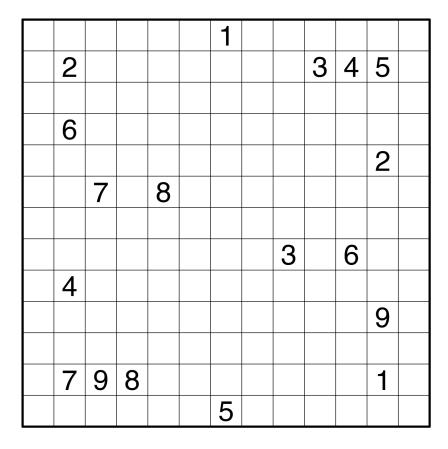
Puzzle 1.4 (2 Points)

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

Puzzle 1.5 (5 Points)

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

Puzzle 1.6 (6 Points)



# 1.7—1.9: Minesweeper

Place mines into some empty cells so that each clue has the indicated number of mines in the (up to) eight surrounding cells.

Puzzle 1.7 (2 Points)

		2	2			
	4			5	5	
	4					က က
3			5			3
3					5	
	2	2			5 5	
			2	2		

Puzzle 1.8 (3 Points)

			2			1
	3	3		1	2	
	1	2		3	3	
1						2
	1	2		3	3 2	
	3	3		1	2	
1			1			

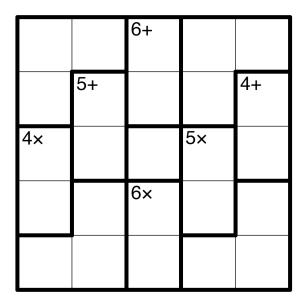
Puzzle 1.9 (7 Points)

1		1	1		1		2		
	3		3		2			4	
							1		
1	2	3	4	5		4		2	
							3		1
1		2							
	2		3		3	2	1	2	1
		4							
	5			4		3		2	
		3		3		2	1		1

## 1.10—1.12: TomTom

Place a number from 1 to N into each cell so that each row and column contains every number from that range with no repeats, where N is the side length of the grid. A clue represents the value obtained by applying an operation iteratively on the numbers in the region the clue is in. If no operation is given, it may be any of +, -,  $\times$ , or  $\div$ . Subtraction and division in regions with more than two numbers are handled by taking the largest number and subtracting/dividing all the others. For example, a region clued with 1– can have 3, 6, and 2, as 6-3-2=1, but it can't have 4, 5, and 2.

Puzzle 1.10 (3 Points)



Puzzle 1.11 (6 Points)

20×		16+		15×	
	9+				11+
10+					
				8+	
	9+		12+		18×

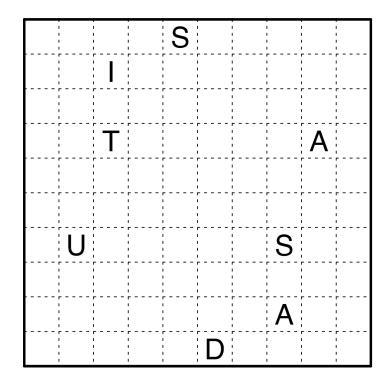
Puzzle 1.12 (10 Points)

24		23		45	
		8			
7					4
	16		8		
20				13	

# 1.13—1.14: Scrabble

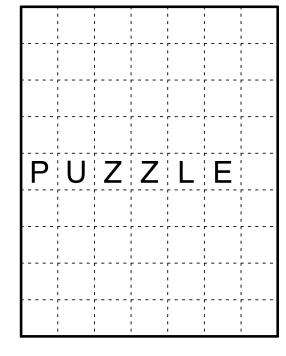
Place a letter in some cells of the grid so that all letters form one orthogonally connected area. Every consecutive group of 2+ letters in a row or column forms a word read from left to right or from top down. All words are given outside the grid and must appear exactly once.

Puzzle 1.13 (3 Points)



SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY

Puzzle 1.14 (5 Points)



AFLAME KNEE
APP LIAM
AQUIFER PIZZA
BLIZZARD PUZZLE
CLAN QUILT

CRAB REST

### 1.15: Scrabble

Place a letter in some cells of the grid so that all letters form one orthogonally connected area. Every consecutive group of 2+ letters in a row or column forms a word read from left to right or from top down. All words are given outside the grid and must appear exactly once.

Puzzle 1.15 (9 Points)

			L							 Α	  -  - 		
			,				Р				, , , ,	, , , , , , , , , , , , , , , , , , ,	
			D							 В		, , , , , , , , , , , , , , , , , , ,	
	V		,			· · · · · · · · · · · · · · · · · · ·					, , , ,	D	
			,								  -  -  -		
F					O	· · · · · · · · · · · · · · · · · · ·		<sub>-</sub>	U		, , , ,		L
			Y			r i	Α	 		 G	  -  - 		
					Ε			<sub>-</sub>	S		       		
								,		 	  -  -  -	, , , , , , , , , , , , , , , , , , ,	
	Н		С			·		,		 Н	! ! ! F	Ν	
							W						
					N				L		 		
											:    -  -		
		1						 			 		

ATHENS NEWORLEANS DENVER STPAUL BALTIMORE DETROIT PORTLAND SYRACUSE CAMBRIDGE FRESNO READING TACOMA CHICAGO LAREDO SANTACLARA WACO DALLAS NEWARK STLOUIS

# 1.16—1.18: Hidato

Place a number from 1 to N into each cell so that every number appears once, where N is the total number of cells in the grid. Every number must be adjacent (orthogonally or diagonally) to all numbers in the grid that are consecutive with it.

Note: you can either place all numbers or draw a complete path.

Puzzle 1.17 (7 Points)

Puzzle 1.16 (3 Points)

16					6
			13		
	10				
				31	
		20			
1					27

	19	1		41	44	
63						
16						
16 36						6
						25
54						
		33	12	11	27	

Puzzle 1.18 (12 Points)

						79	81			
			66	77		61	53			
69	90		76	117						
2	3						135	140		
							137	143		
	95	114								
	19	112						132	44	
					101	35		40	131	
		11	30		104	124				
		26	25							