



# Round 3: Powerhouses Advanced Division

Name: \_\_\_\_\_

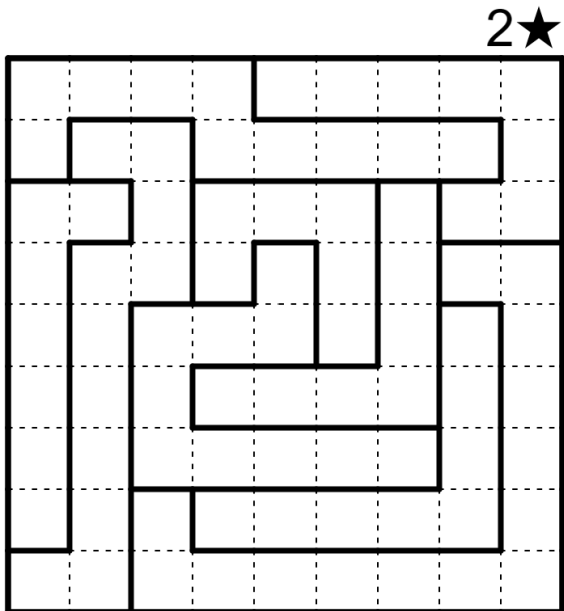
A.3.1	Star Battle	4 points	A.3.10	Double Choco	2 points
A.3.2	Star Battle	5 points	A.3.11	Double Choco	5 points
A.3.3	Star Battle	8 points	A.3.12	Double Choco	8 points
A.3.4	Masyu	2 points	A.3.13	Kakuro	3 points
A.3.5	Masyu	4 points	A.3.14	Kakuro	9 points
A.3.6	Masyu	12 points	A.3.15	Kakuro	15 points
A.3.7	LITS	3 points			
A.3.8	LITS	9 points			
A.3.9	LITS	11 points			

Total: 100 points

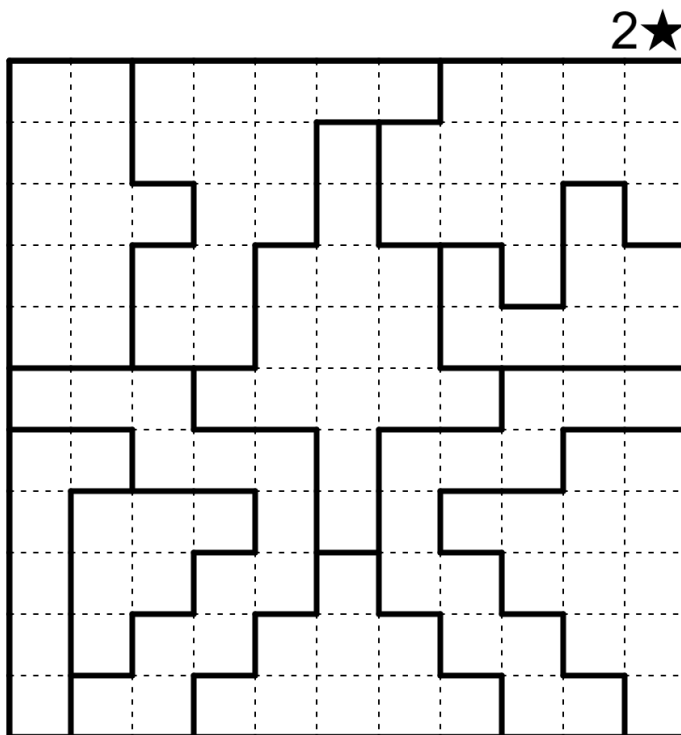
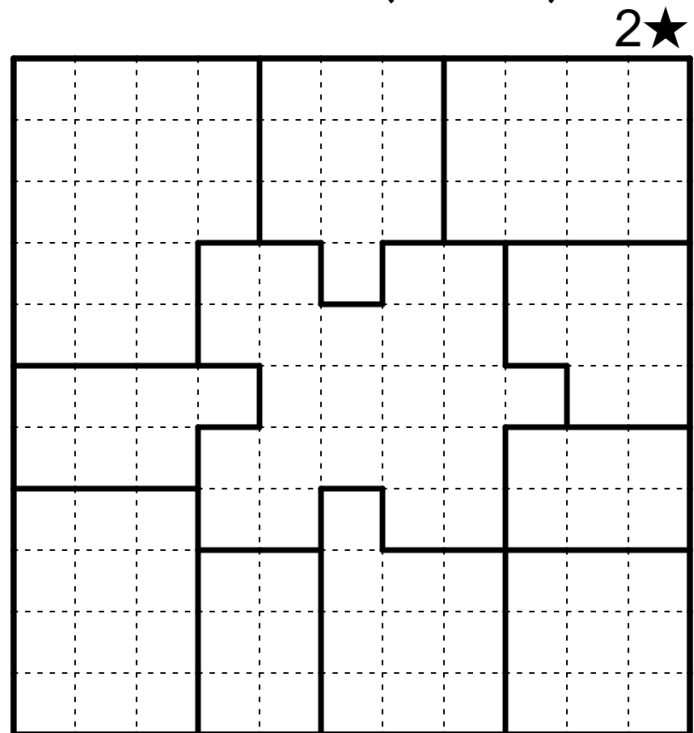
# A.3.1—A.3.3: Star Battle

Place stars into some cells such that each row, column, and outlined region contains exactly  $N$  stars. The value of  $N$  is given outside the grid. Stars may not touch one another, not even diagonally.

Puzzle A.3.1 (4 Points)



Puzzle A.3.2 (5 Points)

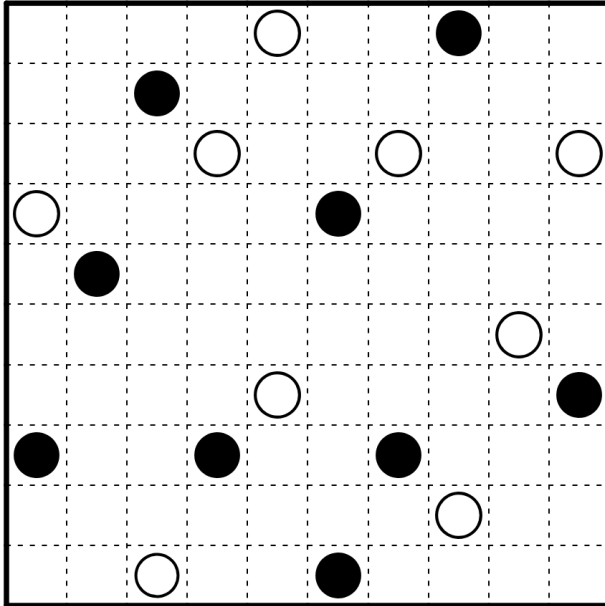


Puzzle A.3.3  
(8 Points)

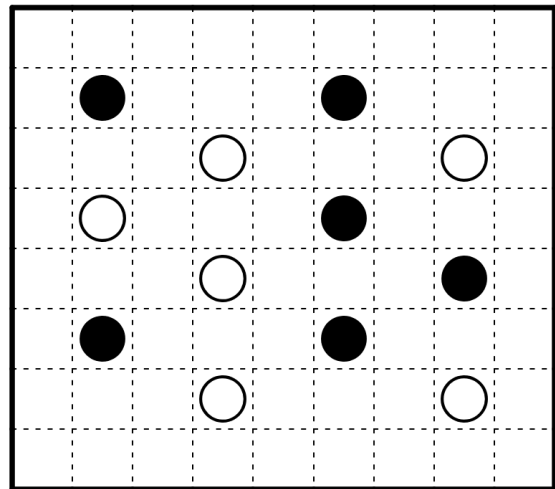
## A.3.4—A.3.6: Masyu

Draw a non-intersecting loop through the centers of some cells that passes through every circle. The loop must turn on black circles and travel straight through the cells on either side. The loop must go straight through white circles, and turn in at least one of the cells on either side.

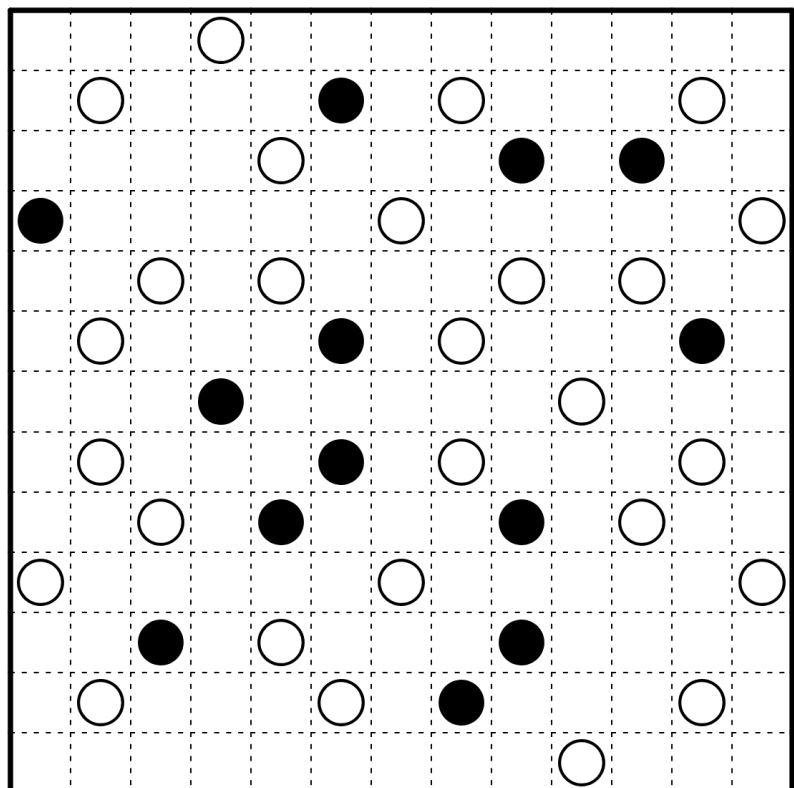
Puzzle A.3.4 (2 Points)



Puzzle A.3.5 (4 Points)



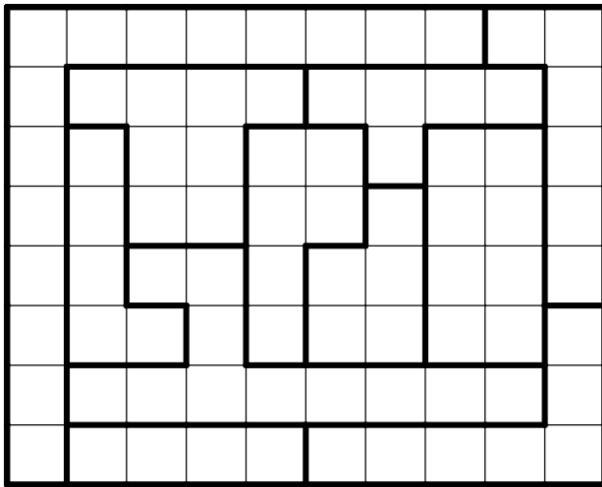
Puzzle A.3.6  
(12 Points)



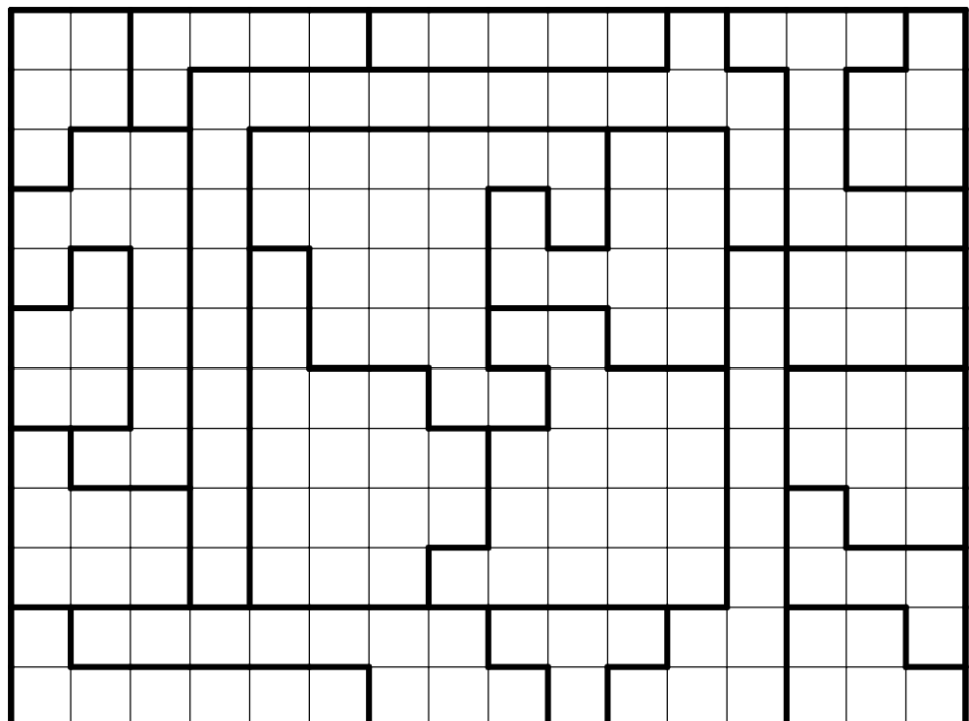
## A.3.7—A.3.8: LITS

Shade one tetromino of cells in each region so that all shaded cells form one orthogonally connected area. Two tetrominoes of the same shape may not touch orthogonally, counting rotations and reflections as the same. No 2x2 region may be entirely shaded.

*(Note: Some regions may have internal borders. In these cases, the two cells adjacent to the internal border cannot both be shaded.)*



Puzzle A.3.7  
(3 Points)



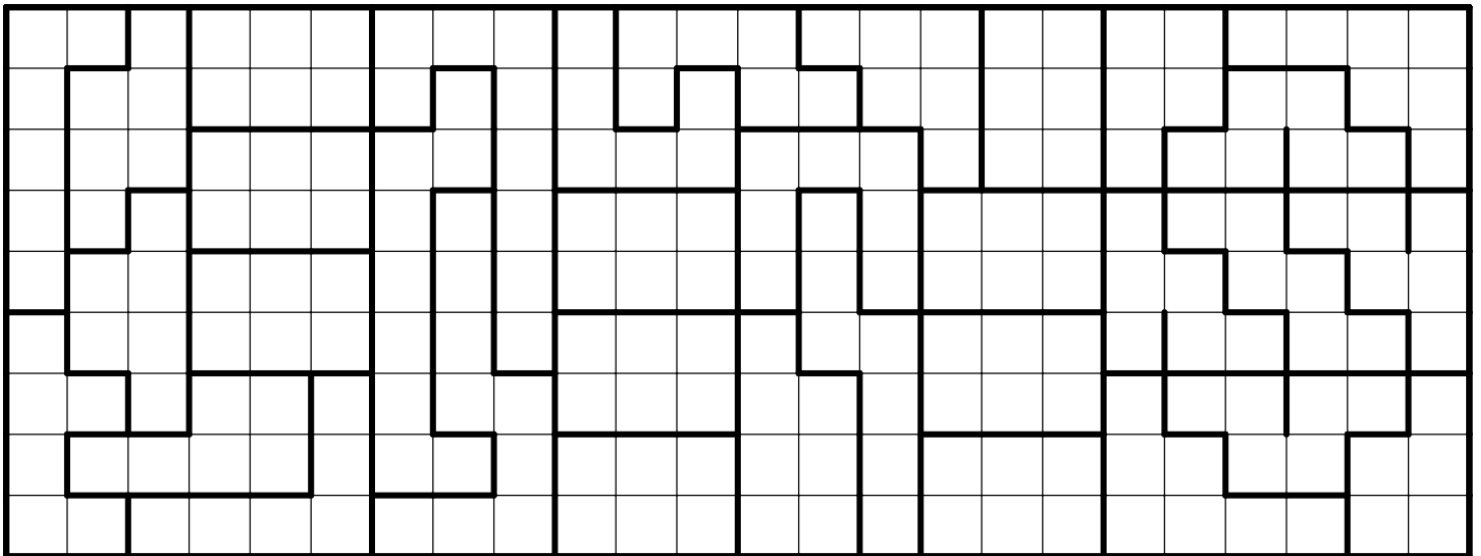
Puzzle A.3.8  
(9 Points)

## A.3.9: LITS

Shade one tetromino of cells in each region so that all shaded cells form one orthogonally connected area. Two tetrominoes of the same shape may not touch orthogonally, counting rotations and reflections as the same. No 2x2 region may be entirely shaded.

*(Note: Some regions may have internal borders. In these cases, the two cells adjacent to the internal border cannot both be shaded.)*

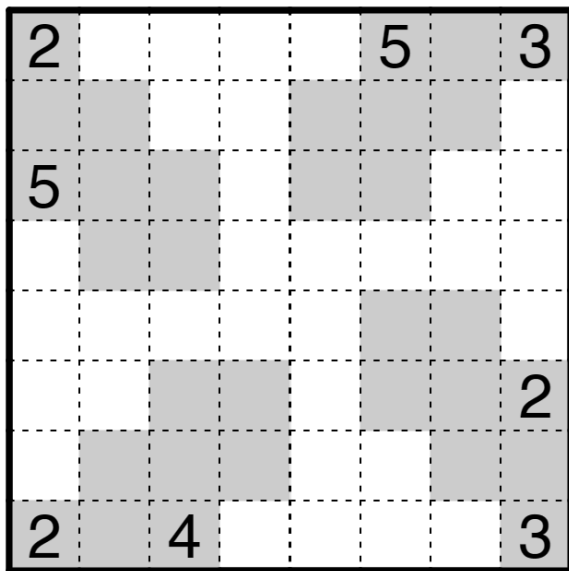
### Puzzle A.3.9 (11 Points)



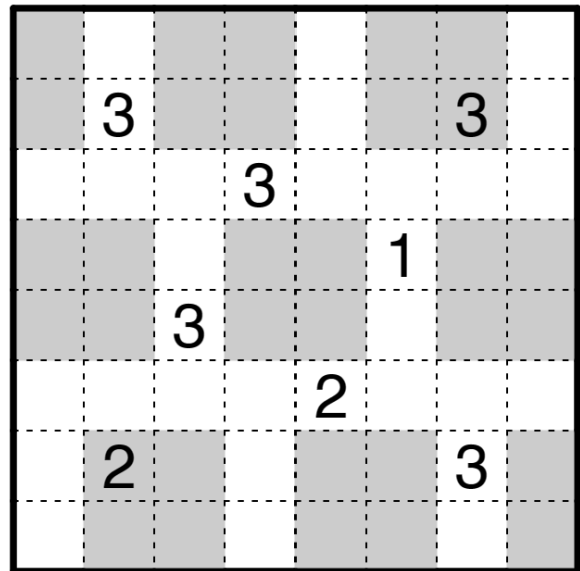
## A.3.10—A.3.12: Double Choco

Divide the grid into regions of orthogonally connected cells, each containing a connected group of white cells and a connected group of grey cells, with the property that the shape of the white cells is identical to the shape of the grey cells, allowing rotations and reflections. Clued cells must belong to a region containing the indicated number of white cells and the indicated number of grey cells.

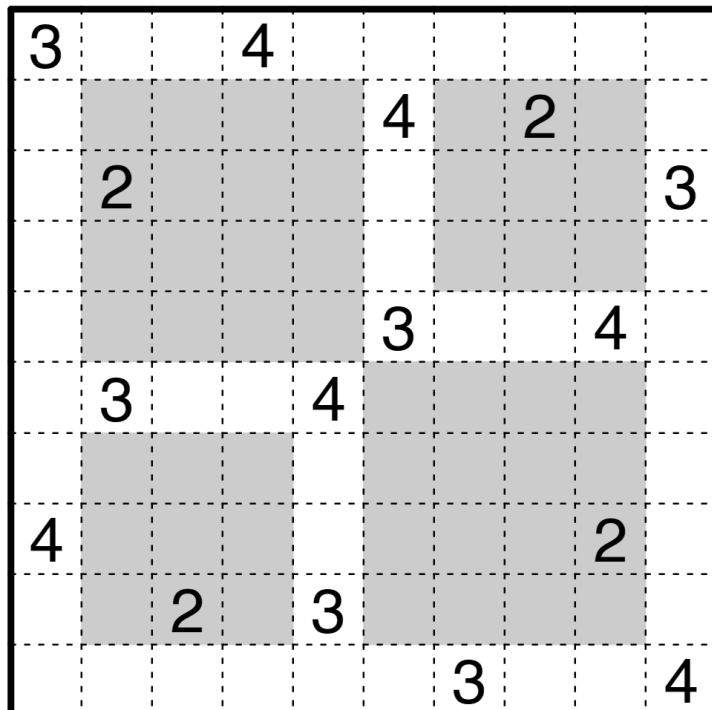
Puzzle A.3.10 (2 Points)



Puzzle A.3.11 (5 Points)

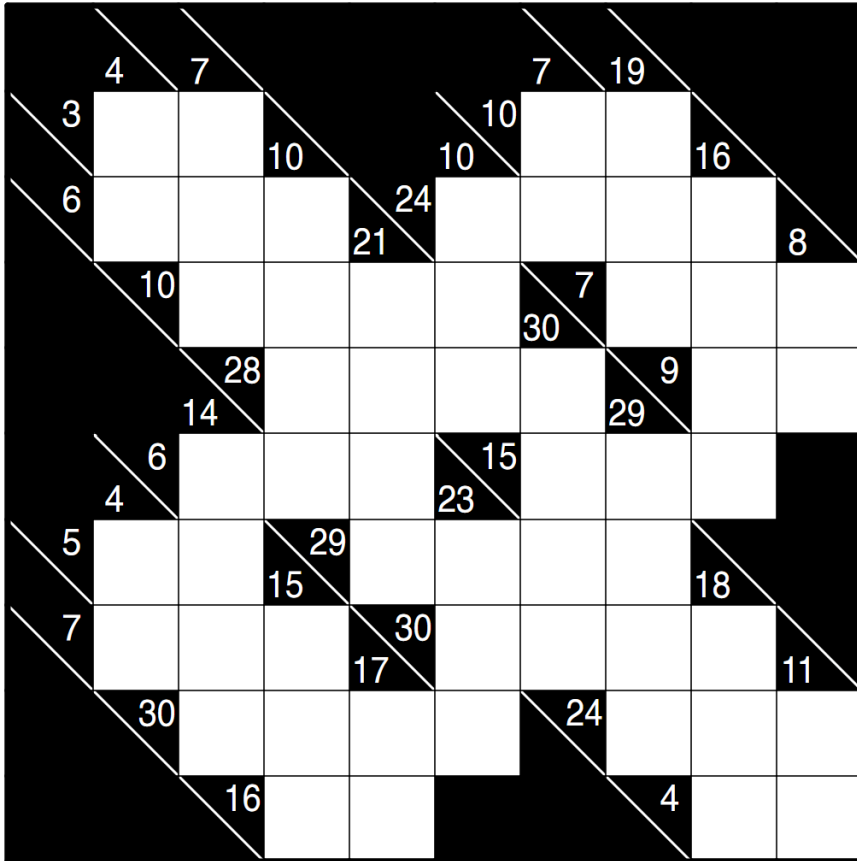


Puzzle A.3.12  
(8 Points)



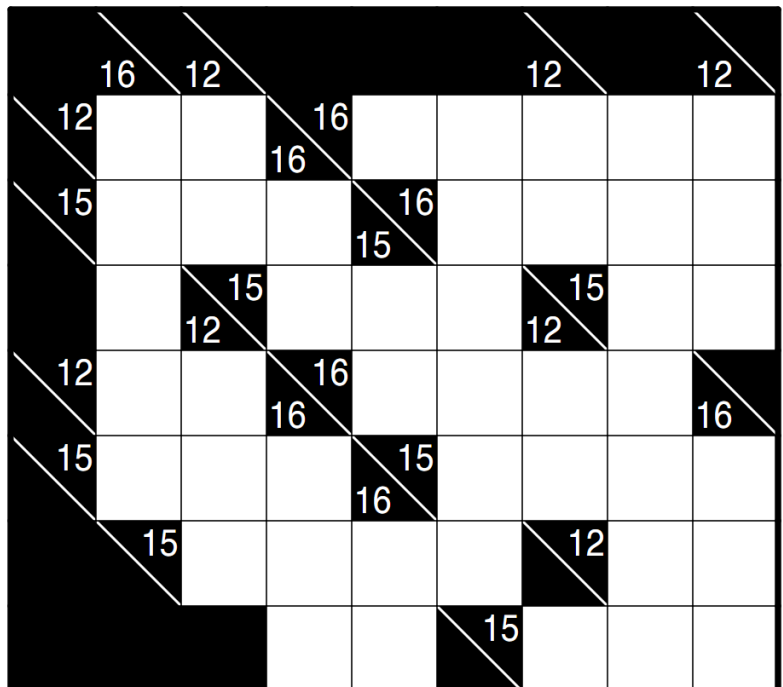
## A.3.13—A.3.14: Kakuro

Place a number from 1 to 9 into each empty cell so that no number is repeated in any unobstructed horizontal or vertical line. A clue on the bottom of a blocked cell represents the sum of the numbers in the vertical line below it. A clue on the right side of a blocked cell represents the sum of the numbers in the horizontal line to its right. Clues cannot see numbers through other blocked cells.



Puzzle A.3.13  
(3 Points)

Puzzle A.3.14  
(9 Points)



# A.3.15: Kakuro

Place a number from 1 to 9 into each empty cell so that no number is repeated in any unobstructed horizontal or vertical line. A clue on the bottom of a blocked cell represents the sum of the numbers in the vertical line below it. A clue on the right side of a blocked cell represents the sum of the numbers in the horizontal line to its right. Clues cannot see numbers through other blocked cells.

Puzzle A.3.15 (15 Points)

The puzzle grid is 10x10. The clues are as follows:

- Row 1: 35 (above col 1), 7 (above col 2), 18 (above col 3), 28 (above col 4), 4 (above col 5), 12 (above col 6), 16 (above col 7), 10 (above col 8), 12 (above col 9).
- Row 2: 43 (left of col 1), 23 (left of col 7), 16 (right of col 10).
- Row 3: 27 (left of col 1), 35 (left of col 3), 11 (left of col 7), 18 (left of col 8).
- Row 4: 17 (left of col 1), 10 (left of col 3), 36 (left of col 6), 18 (left of col 7).
- Row 5: 16 (left of col 1), 10 (left of col 3), 10 (left of col 6), 7 (right of col 9).
- Row 6: 12 (left of col 1), 10 (left of col 3), 17 (left of col 4), 14 (left of col 6), 3 (right of col 9).
- Row 7: 21 (left of col 1), 5 (left of col 6), 14 (left of col 7), 3 (right of col 9).
- Row 8: 16 (left of col 4), 14 (left of col 8), 7 (right of col 9).
- Row 9: 10 (left of col 1), 39 (left of col 4), 7 (right of col 8).