



# Round 1: “Pop Culture” Advanced Division

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

A.1.1	Sudoku	3 points	A.1.10	Battleships	3 points
A.1.2	Sudoku	9 points	A.1.11	Battleships	6 points
A.1.3	Sudoku	14 points	A.1.12	Battleships	10 points
A.1.4	Scrabble	2 points	A.1.13	Wordle Bank	4 points
A.1.5	Scrabble	7 points	A.1.14	Wordle Bank	5 points
A.1.6	Scrabble	15 points	A.1.15	Wordle Bank	8 points
A.1.7	Numberlink	2 points			
A.1.8	Numberlink	4 points			
A.1.9	Numberlink	8 points			

Total: 100 points





## A.1.6: Scrabble

Place a symbol in some cells of the grid so that all symbols form one orthogonally connected area. Every consecutive group of two or more symbols 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 A.1.6 (15 Points)

$$\det(A - \lambda I)$$

$$i^2 = -1$$

$$\varphi = (1 + \sqrt{5}) / 2$$

$$E = mc^2$$

$$p = mv$$

$$\int t^2 dt = 1/3 t^3$$

$$\exp(i\pi) = -1$$

$$W = \int F \cdot ds$$

$$\int u dv = uv - \int v du$$

$$f = 1/T$$

$$1/2 mv^2$$

$$\iint F \cdot n dS$$

$$F - E + V = 2$$

$$\Delta S = \Delta Q / T$$

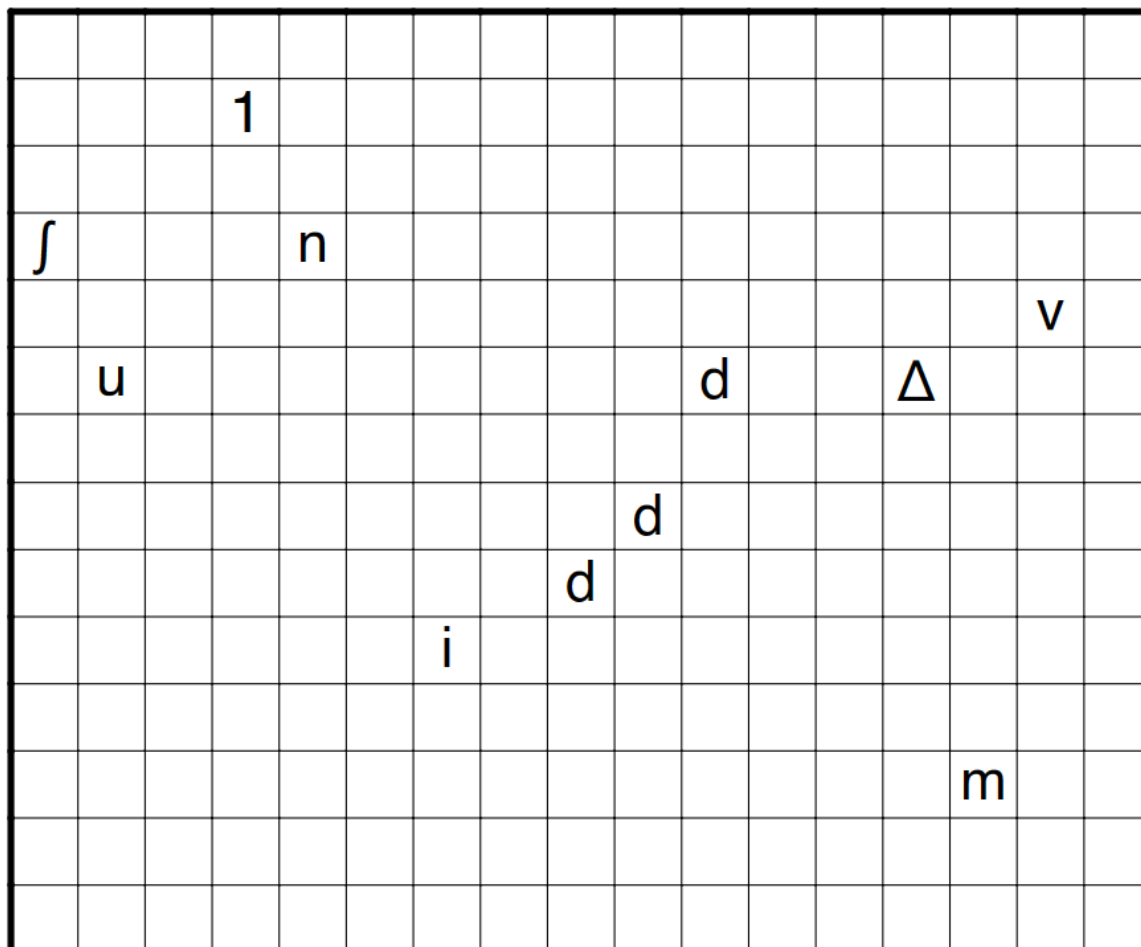
$$\iiint \nabla \cdot F dV$$

$$F = ma$$

$$\pi r^2$$

$$I = \int r^2 dm$$

$$\sum 1/n = \infty$$

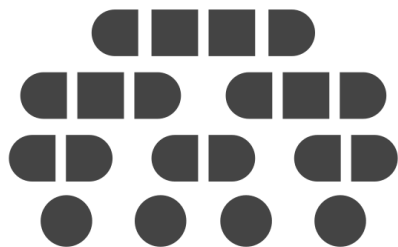
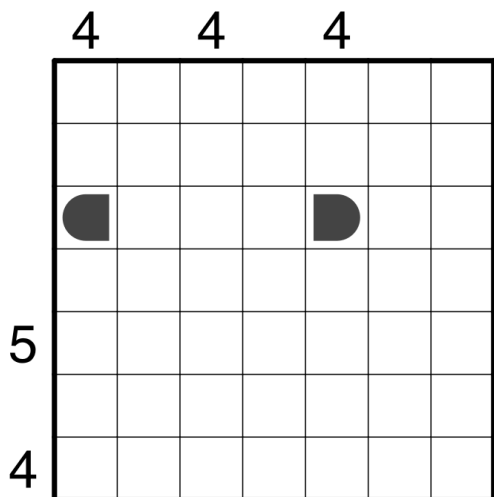




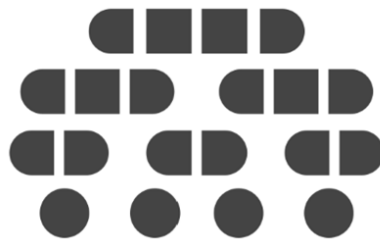
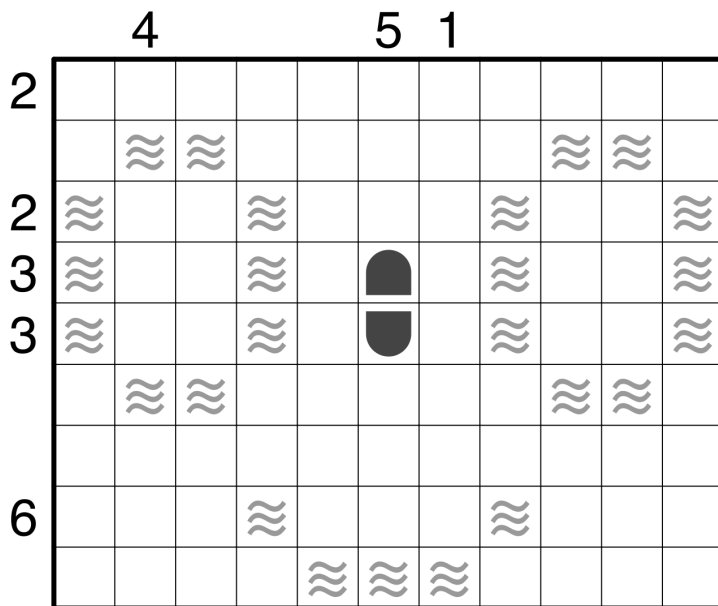
# A.1.10—A.1.12: Battleships

Locate the indicated fleet in the grid. Each segment of a ship occupies a single cell. Ships can be rotated. Different ships cannot be placed in adjacent cells that share an edge or corner. Some ship segments, or sea cells without any ship segments, are given in the grid. The numbers on the right and bottom edges of the grid reveal the number of ship segments in that row or column.

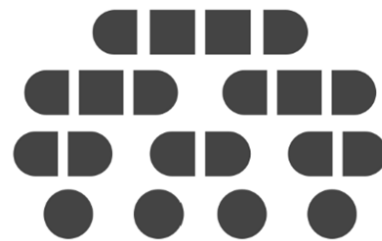
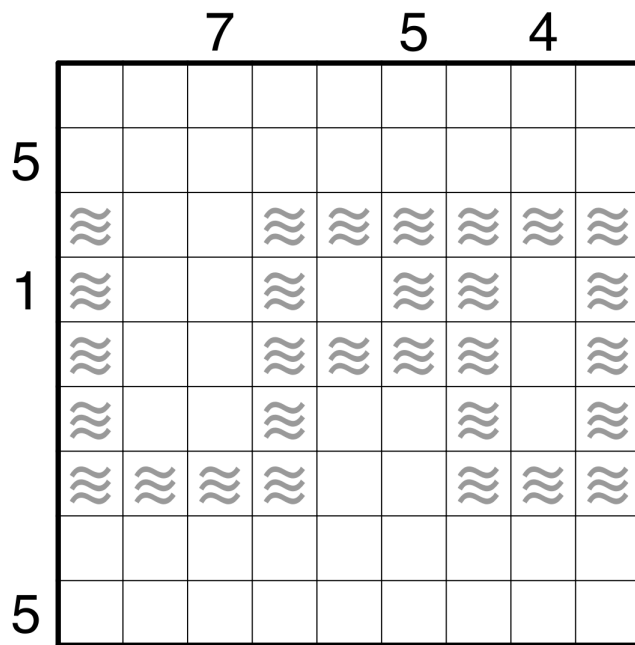
Puzzle A.1.10 (3 Points)



Puzzle A.1.11 (6 Points)



Puzzle A.1.12  
(10 Points)



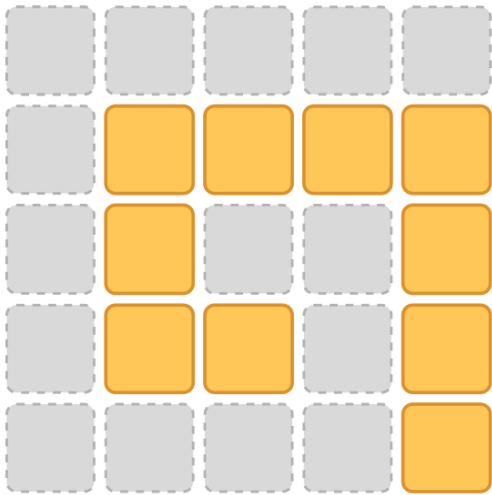
## A.1.13—A.1.15: Wordle Bank

One or more Wordle games have been played and information about the first few guesses of each game is given. All guesses are also given collectively, in alphabetical order. Match each guess to its row.

*Guesses or answer words do not contain repeated letters.* The answers to the Wordle games need not be valid English words. It is not your task to find the answer for each game, just to identify the order of all the guesses from the given information.

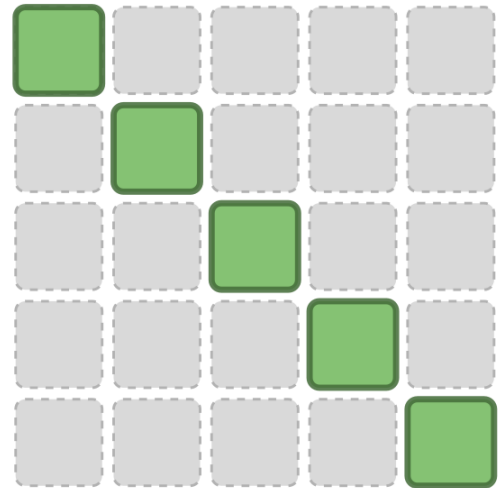
### Puzzle A.1.13 (4 Points)

BRING CRAIG JUMPY  
SWUNG WRONG



### Puzzle A.1.14 (5 Points)

AMBER BLOND MAUVE  
TOPAZ WHITE



### Puzzle A.1.15 (8 Points)

CDROM DEBUG EMAIL FORUM IMAGE  
LOGIN PIXEL QUERY STACK VIRUS

