Arithmetic

Question: Alexis came to an event 3 minutes ago. The current time is shown on the clock .... What was the time when Alexis came to the event?

Options:

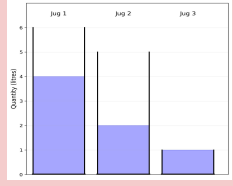
(A) 8:55
(B) 9:19
(C) 9:25
(D) 11:30

Arithmetic + Search

Question: ... The objective is to reach the amounts of 4, 3, 0 litres of water in the jugs from left to right, respectively. What is the minimum number of water pouring steps required to achieve the objective?

Options:

(A) 1
(B) 2
(C) 3
(D) 4

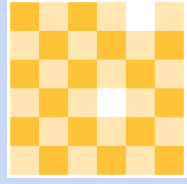


Boolean Logic

Question: The checkerboard shown in the image was originally of 6 * 6 in dimension. .... Is it possible to place all the 17 dominoes in the checkerboard to exactly cover all the remaining 34 squares?

Options:

(A) Yes
(B) No

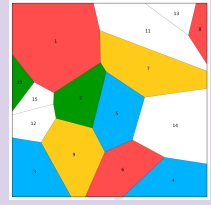


Combinatorics + Graphs

Question: .... How many unique complete maps can be created by colouring all the white regions starting from the given incomplete map?

Options:

(A) 2
(B) 4
(C) 8
(D) 12



Optimization

Question: .... What is the minimum number of tile swaps required to reach the ideal state in the right from the random state in the left?

Options:

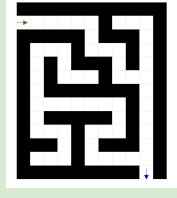
(A) 2
(B) 6
(C) 8
(D) 4

Optimization + Search

Question: ... Suppose you have found the most optimal path in the maze between the entrance and exit .... What is the total number of left turns do you need to make in this optimal path?

Options:

(A) 2
(B) 3
(C) 4
(D) 5

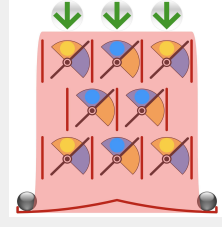


Boolean Logic + Sets

Question: .... Four balls are dropped in sequence through the following holes: left, left, right, right .... How many yellow faces can be seen in total in all the rows now?

Options:

(A) 2
(B) 4
(C) 5
(D) 6

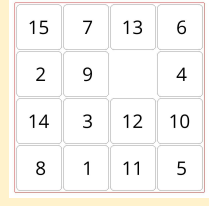


Combinatorics + Sets

Question: .... You start from the board position shown in the image and perform exactly 3 moves. How many unique final board positions can you reach?

Options:

(A) 12
(B) 24
(C) 30
(D) 36



15	7	13	6
2	9		4
14	3	12	10
8	1	11	5