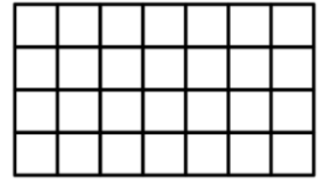


# Math: Reasoning and Logics

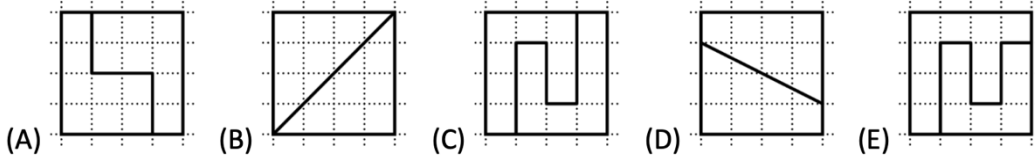
## Practice Problems

1. The rectangle on the right consists of 4 rows and 7 columns. In total, it consists of 28 white squares. Ira paints 2 rows and 1 column. How many squares remain white?



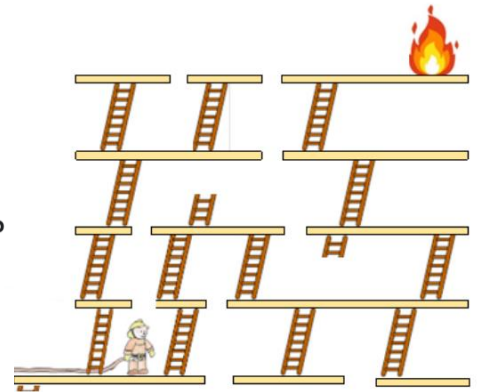
- (A) 8                      (B) 10                      (C) 12                      (D) 14                      (E) 17

2. Which square was divided into two different figures?

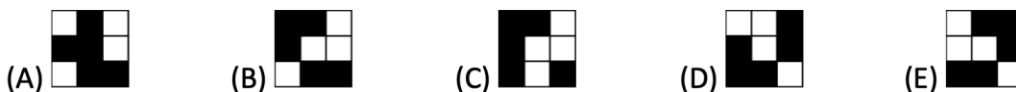


3. Firefighter Fred wants to put out the fire. What is the smallest number of ladders he has to climb in the picture on the right, to get to the fire without jumping?

- (A) 4                      (B) 5                      (C) 6                      (D) 7                      (E) 8



4. Tim has black and white squares of paper. He glues the squares on the inside of a window. This creates the pattern shown on the right. What pattern can you see from the outside?



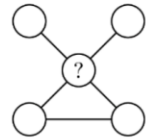
5. 213, 214 and 215 are three consecutive three-digit numbers. Mohammad writes three consecutive four-digit numbers in a row. His sister erases a few digits from each of the three numbers.

\_\_\_7, \_898, 48\_\_

Which digits (from left to right) are missing?

- (A) 3 8 9, 3, 9 9    (B) 4 8 9, 3, 9 6    (C) 4 8 9, 4, 9 8    (D) 4 8 9, 4, 9 9    (E) 4 8 8, 4, 9 9

6. Lisa writes the numbers 1, 2, 4, 5 and 6 in the circles of the pattern. She writes each of the five numbers exactly once, and if she adds up the numbers along one of the three straight lines, she gets 11 each time.



Which number did she write in the circle with the question mark?

- (A) 1                      (B) 2                      (C) 4                      (D) 5                      (E) 6

7. These five fruits are in a basket: 🍏 🍇 🍓 🍌 🍌.

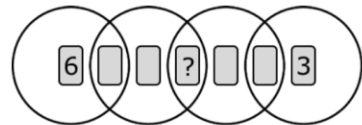
Ann likes 🍓. Ben likes 🍏 🍇 🍓 🍌 🍌. Cam likes 🍓 🍌 🍌. Dan likes 🍓 🍌. Eli likes 🍇 🍌.

Each child takes one fruit that they like.

Which fruit does Ben take?

- (A) 🍏                      (B) 🍇                      (C) 🍓                      (D) 🍌                      (E) 🍌

8. 7 cards with the numbers from 1 to 7 are placed in these four overlapping rings: If you add up the numbers of all the cards in a ring, the result is always 10.



What number is on the card with the question mark?

- (A) 1                      (B) 2                      (C) 4                      (D) 5                      (E) 7

9. Cards of the same shape hide the same digits.

Cards with different shapes hide different digits.

Kim lays out the cards in such a way that the calculations are correct.

$$\triangle + \triangle = \square \bigcirc$$

$$\bigcirc + \triangle = \square \square$$

What number does Kim get for the calculation  $\triangle \cdot \bigcirc \cdot \square$ ?

- (A) 0                      (B) 15                      (C) 18                      (D) 28                      (E) 30

10. The picture on the right shows a honeycomb with 9 cells. There is honey in some cells. The numbers in the cells indicate how many neighbouring cells contain honey.



How many cells are filled with honey?

- (A) 4                      (B) 5                      (C) 6                      (D) 7                      (E) 8