

ĐỀ 4:

Logical Thinking

1. According to the pattern shown below, what is the number in the blank?
8, 10, 14, 20, 28, 38, __,
2. If the day after tomorrow will be Wednesday, which day of the week will it be 5 days later?
3. 30 children form a column. Alice is the 11th starting from the front. What is her position counting from the back?
4. Alice needs 10 minutes to finish a lap. Then she needs to rest 1 minute. How many minute(s) does it take her to finish 10 laps?
5. According to the pattern shown below, how many ◎ is / are there in the 9th group?

15

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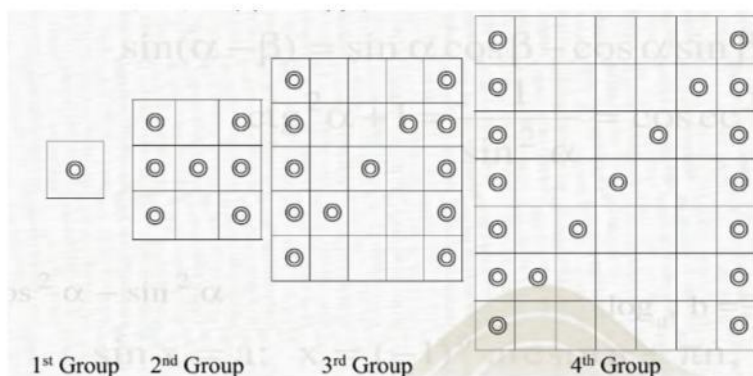
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Arithmetic

6. Find the value of $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15$.
7. Find the value of $3 \times 3 + 6 \times 2 + 9 \times 1 + 18 \times 2$.
8. Find the value of $123 + 294 + 377 + 206$.
9. What is the number that should be filled in the blank if the equation below is correct?

___ - 15 = 30

10. Refer to the puzzle, find the value of B.

$$\begin{array}{r} + \quad A \\ \quad AB \\ \hline 91 \end{array}$$

Number Theory

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11. Alice has 31 pencils and Peter has 92 pencils. How many pencil(s) does Peter need to give Alice so that he has 11 fewer pencils than Alice does?

12. 15 students sit for a test and their sum of scores is even. Among them, 7 students have an odd number of scores and 3 students have an even number of scores. Determine whether the sum of scores of the remaining children is odd or even.

13. The numbers below follow the arithmetic sequence. What is the 9th number?

198, 187, 176, 165, 154, ...

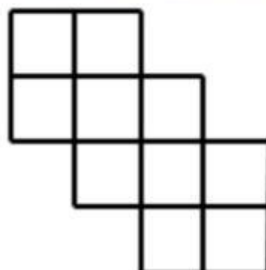
14. After Alice gives 8 pencils to Peter and takes 6 pencils from Mary, they will have an equal number of pencils. How many pencil(s) did Mary have more than Peter originally?

15. Fill in the blanks with ' + ' and ' × ' to make the equation below correct.

$$1 \quad _ \quad 1 \quad _ \quad 4 \quad _ \quad 4 \quad _ \quad 5 = 23$$

Geometry

16. How many square(s) is / are there in the figure below?



17. A prism has 16 faces, how many vertice(s) does this prism have?

18. By observing the pattern, what is the missing figure?



17

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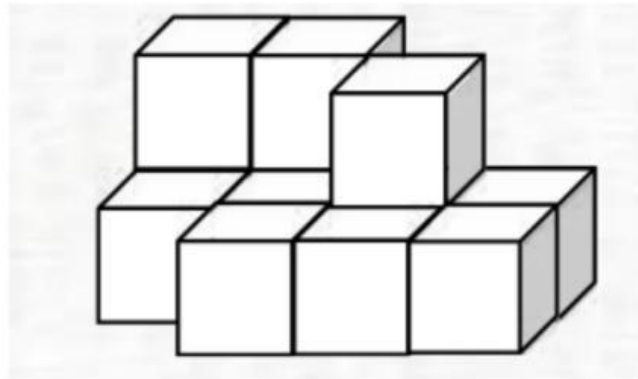
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19. At least how many square(s) can be seen if viewing the figure below from top?



20. At most how many line(s) can be formed by using 6 points on a plane?

Combinatorics

21. How many 3-digit number(s) is / are there such that their unit digits must be smaller than 5?

22. What is the greatest 4-digit number formed by using 2, 4, 6 and 8 (without repetition) given that it is divisible by 4?