

Đề thi TIMO khối 4 vòng chung kết quốc gia năm 2024

Logical Thinking / Tư duy logic

1. Andy has 40 marks and John has 55 marks in a drawing competition. If the average mark of Andy, John and Mary is 60, what is Mary's marks?

Mark: Điểm số; Average: Trung bình cộng.

Key: 85

2. If 29th June, 2024 is Saturday, which day of the week was 15th February, 2024? (Given that 2024 is a leap year)

June: Tháng Sáu; Saturday: Thứ Bảy; Day of the week: Thứ trong tuần; February: Tháng Hai; Leap year: Năm nhuận.

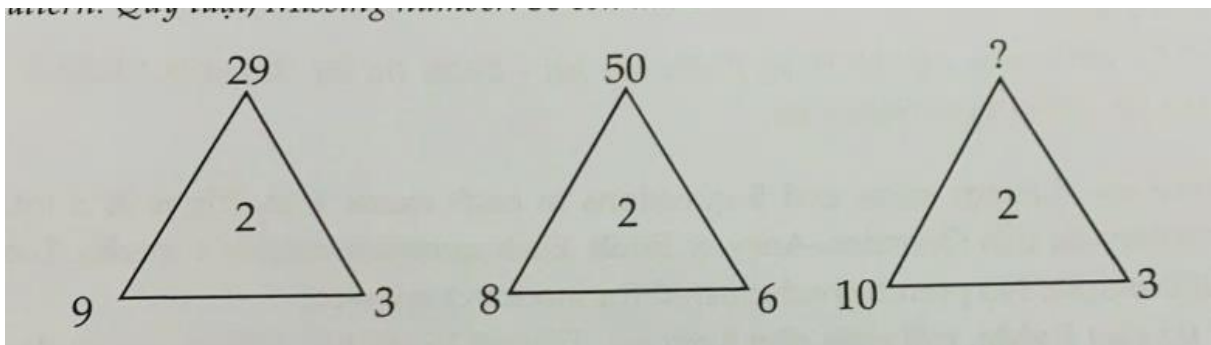
Key: Thursday

3. It requires 40 minutes to cut a piece of wood into 6 sections. If the time for each cut is the same, how many minutes are required to cut a piece of wood into 11 sections? (You can only cut one piece of wood into two at a time.)

Require: Cần; Minute: Phút; Piece of wood: Khúc gỗ; Section: Phần; The same: Như nhau.

Key: 80

4. According to the pattern shown below, what is the missing number? Pattern: Quy luật; Missing number: Số còn thiếu.



Key: 32

5. There is a total of 30 animals including chickens and rabbits in a farm. The animals have a total of 96 legs. How many chickens are there? *Total: Tổng cộng; Animal: Con vật; Chicken: Con gà; Rabbit: Con thỏ; Leg: Cái chân.*

Key: 12

Arithmetic / Số học

6. Find the value of $63 \times 9 - 63 + 42 \times 9 + 84 \times 2$

Value: Giá trị.

Key: 1050

7. Find the value of $79:13 + 90:39 - 10:26$

Value: Giá trị.

Key: 8

8. Find the value of $54:16 \times 100:9 \times 40$.

Value: Giá trị.

Key: 1500

9. Find the value of $7 + 10 + 13 + 16 + 19 + \dots + 67 + 70 + 73$.

Value: Giá trị.

Key: 920

10. Find the value of $1 - 9 + 15 - 21 + 27 - 33 + 39 - 45 + 51 - 57 + 63$.

Value: Giá trị.

Key: 31

Number Theory / Lý thuyết số

11. Let A be a natural number such that 2475 is divisible by A. How many different values of A are there?

Natural number: Số tự nhiên; Divisible: Chia hết; Different: Khác nhau; Value: Giá trị.

Key: 18

12. Given that a 9-digit number $\overline{2024101A4}$ is divisible by 12, find the value of A.
9-digit number: Số có 9 chữ số; Divisible: Chia hết; Value: Giá trị.

Key: 4

13. Define the operation symbol $a \otimes b = (a+b) \times (2 \times b - 2 \times a)$, find the value of $5 \otimes (2 \otimes 4)$.

Define: Định nghĩa; Operation symbol: Ký hiệu phép toán; Value: Giá trị.

Key: 1102

14. The sum of A and B is 880. A is 9 times of B. Find the value of A.
Sum: Tổng; 9 times: Gấp 9 lần; Value: Giá trị.

Key: 792

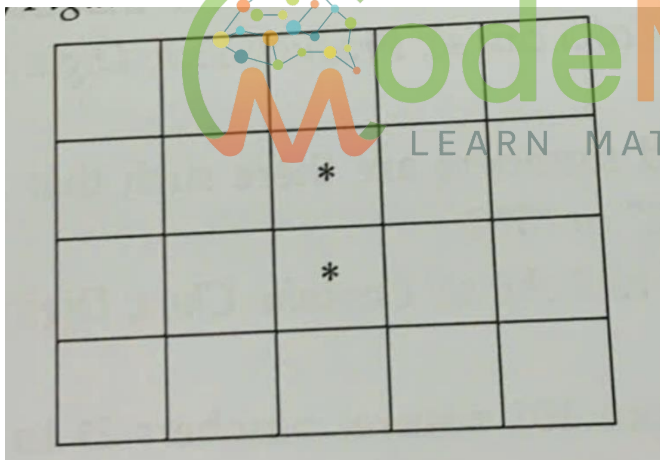
15. How many 3-digit numbers divisible by 4 or divisible by 9 are there?
3-digit number: Số có 3 chữ số; Divisible: Chia hết.

Key: 300

Geometry / Hình học

16. How many rectangles with 2 "*" are there in the figure below?

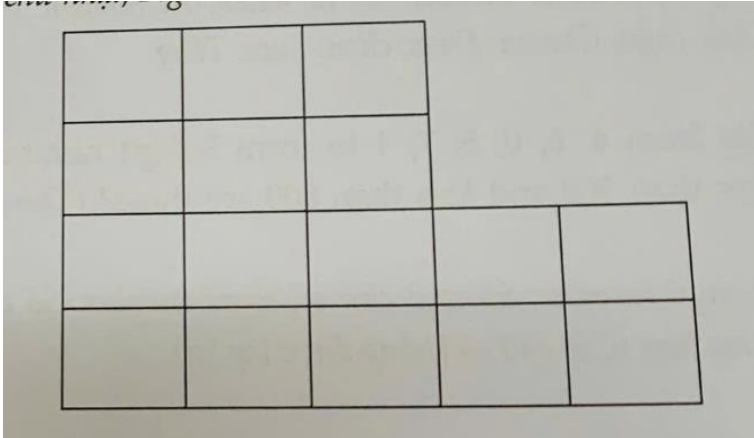
Rectangle: Hình chữ nhật; Figure: Hình vẽ.



Key: 36

17. How many rectangles are there in the figure below?

Rectangle: Hình chữ nhật; Figure: Hình vẽ.

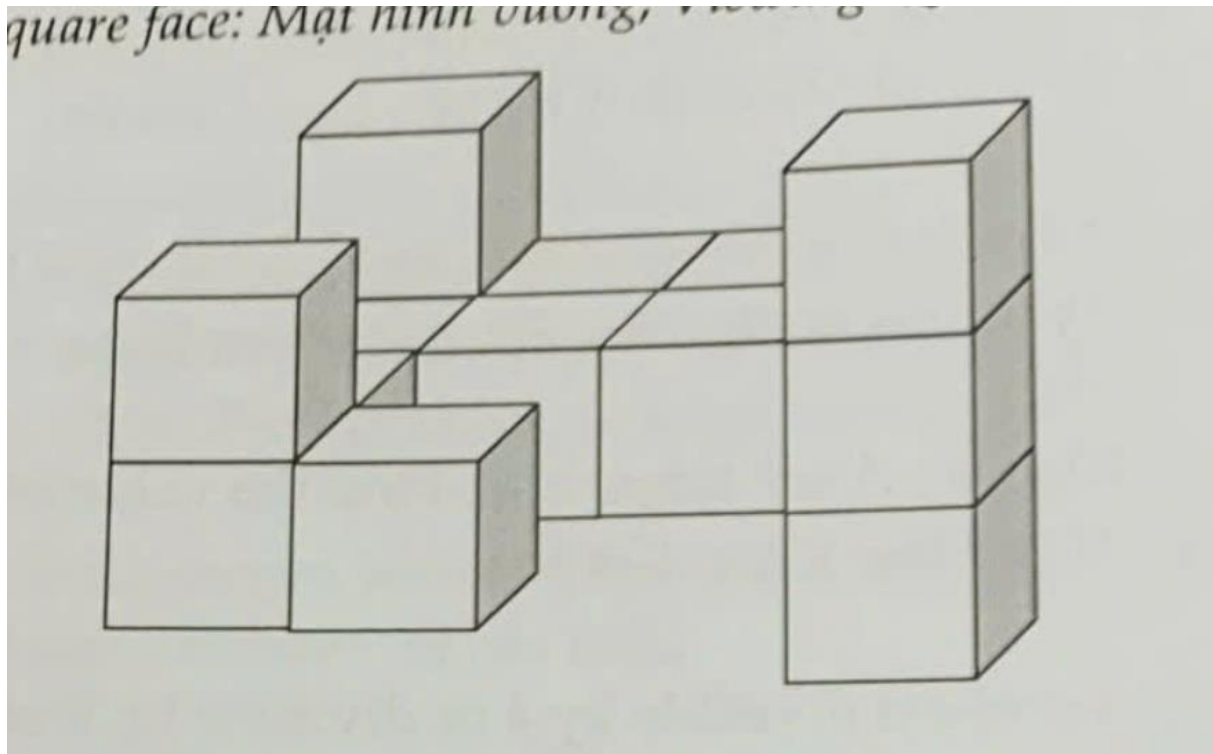


Key: 87

18. The perimeter of a rectangle is 60 cm. If the side lengths of the rectangle are natural numbers in cm, find the maximum value of the area of the rectangle in cm^2 .
Perimeter: Chu vi; Rectangle: Hình chữ nhật; Side length: Độ dài cạnh; Natural number: Số tự nhiên; Maximum value: Giá trị lớn nhất; Area: Diện tích.

Key: 225

19. Identical cubes are combined to get the figure below. At least how many square faces can be seen if viewing the figure from the right?
Identical: Giống nhau; Cube: Hình lập phương; Combined: Được ghép lại; Figure: Hình vẽ; At least: Ít nhất; Square face: Mặt hình vuông; Viewing: Quan sát; Right: Bên phải.



Key: 9



20. A pyramid has 15 faces. How many edges does this pyramid have?
Pyramid: Hình chóp; Face: Mặt; Edge: Cạnh.

Key: 28

Combinatorics / Tổ hợp

21. How many 3-digit odd numbers are there such that the product of digits is 15 or 24?

3-digit odd number: Số lẻ có 3 chữ số; Product: Tích; Digit: Chữ số.

Key: 14

22. How many 3-digit odd numbers are there such that the number does not contain any of the digits "0", "2" or "7"?

3-digit odd number: Số lẻ có 3 chữ số; Contain: Chứa; Digit: Chữ số.

Key: 196

23. Numbers are drawn from 101 natural numbers 21 to 121 at random. At least how many numbers do we need to draw to ensure that there are two numbers chosen whose sum is 95?

Drawn: Được lấy ra; Natural number: Số tự nhiên; At random: Ngẫu nhiên; At least: Ít nhất; Ensure: Chắc chắn; Chosen: Được chọn; Sum: Tổng.

Key: 75

24. Choose 3 digits from 4, 6, 0, 5, 7, 1 to form 3-digit numbers. How many even numbers greater than 300 and less than 800 are there? (The repetition of digits is not allowed)

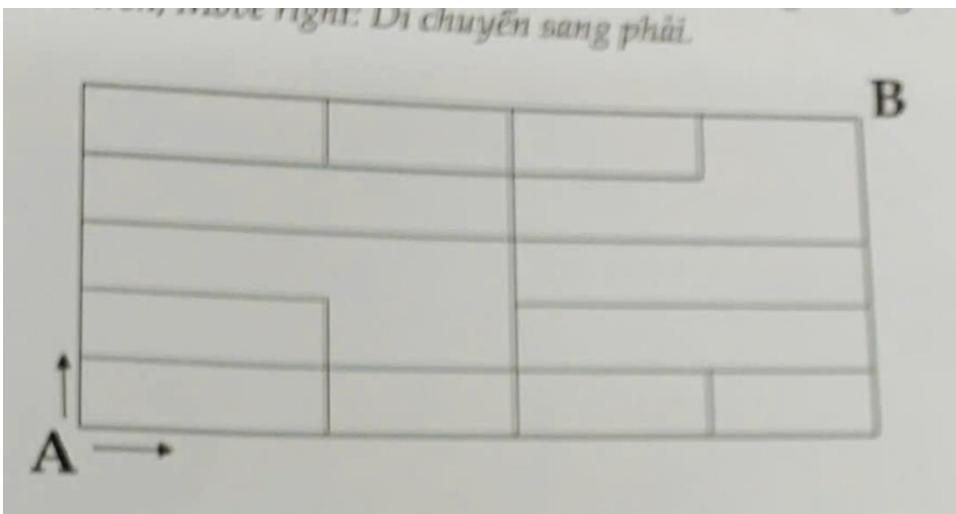
Digit: Chữ số; 3-digit number: Số có 3 chữ số; Even number: Số chẵn; Greater than: Lớn hơn; Less than: Nhỏ hơn (Các chữ số không được lặp lại).

Key: 40



25. In how many different ways can Daniel walk from point A to point B following the paths outlined in the figure below given that he can only move up or move right?

Different ways: Các cách khác nhau; Point: Điểm; Path: Đường đi; Figure: Hình vẽ; Move up: Di chuyển lên trên; Move right: Di chuyển sang phải.



Key: 24