International Online Math Challenge

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PAST PAPERS 2023

Category 1

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EXAM 1

1. Alex was born on Monday April 18, 2016, which is in a leap year. Which day of the week was his birthday two years later?

A) Monday B) Wednesday C) Sunday D) Friday

2. If one week equals 7 days, how many minutes are there in a week?

A) 10080 B) 10800 C) 1800 D) 18000

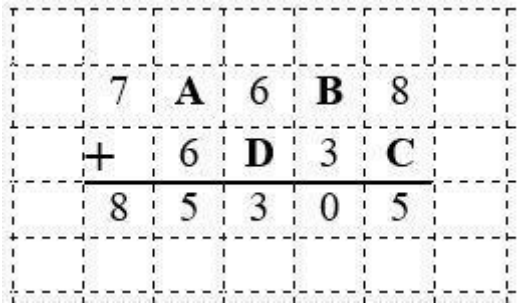
3. The cost of three pairs of trousers is $54. Jon buys seven pairs of trousers. How much does he pay?

A) $144 B) $108 C) $119 D) $126

4. James is ill. His doctor has given him eight pills, and James must take one pill every five hours. If James takes his first pill at 5 p.m. at what time will he takes his last pill?

A) 11 p.m. B) 4 a.m. C) 3 a.m. D) 8 a.m.

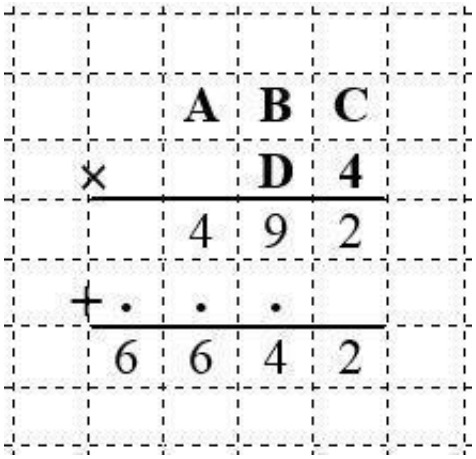
5. Find the sum of the **A+B+C+D**.



	7	**A**	6	**B**	8
+	6	**D**	3	**C**	
8	5	3	0	5	

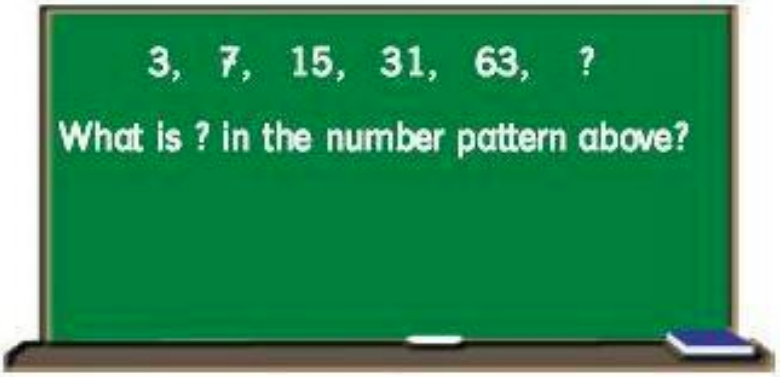
A) 15 B) 12 C) 27 D) 13

6. Find the sum of the **A+B+C+D**.



A) 6 B) 7 C) 11 D) 8

7.



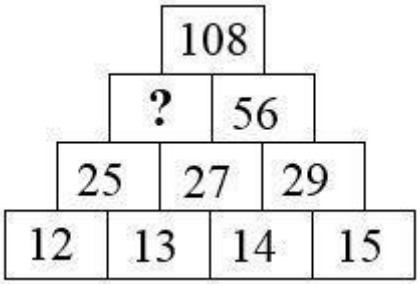
A) 126 B) 127 C) 71 D) 85

8. Alex studied 1 hours and 40 minutes on one day, 2 hours and 55 minutes the next day and 3 hours and 45 minutes on the third day. How long did he study for, in total?

A) 6 hours 40 minutes B) 6 hours

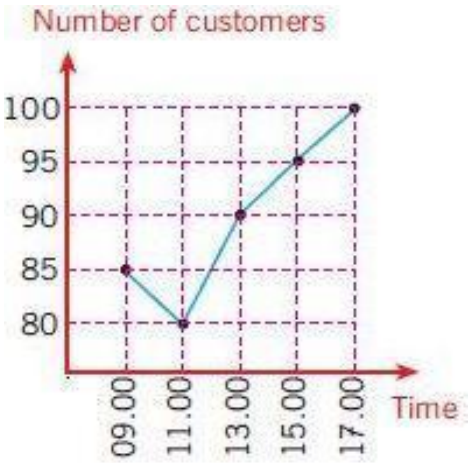
C) 7 hours 40 minutes D) 8 hours 20 minutes

9. Study the pattern and fill the missing term.



A) 52 B) 54 C) 50 D) 55

10.



The line graph above shows the number of customers coming to a restaurant at specific times on a particular day. How many customers were there in total during the day?

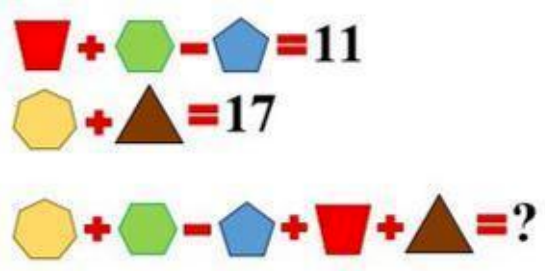
A) 450 B) 370 C) 100 D) 365

11. Calculate.

$$8+20\div2-3\times2$$

A) 13 B) 8 C) 22 D) 12

12. Work out.

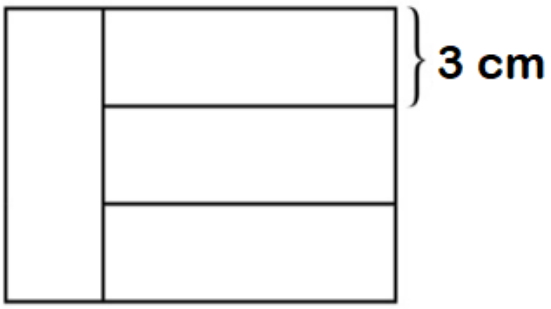


A) 6 B) 25 C) 12 D) 28

13. Simplify the expression. $3 \times (8 + 5) - 4 \times 7$.

A) 11 B) 18 C) 29 D) 39

14. Figure made up of 4 identical rectangles. What is the perimeter of the figure?

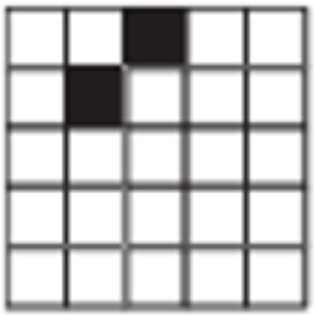


A) 36 cm B) 38 cm C) 40 cm D) 42 cm

15. What is the missing number? $200 + 300 + 400 = 100 + 200 + 300 + \ldots$

A) 500 B) 400 C) 350 D) 300

16. In the diagram below, what fraction of the figure is shaded?



A) 1/25 B) 2/25 C) 3/25 D) 25/2

17. Which one of the following has the smallest remainder?

A) $4002 \div 4$ B) $503 \div 5$ C) $604 \div 6$ D) $75 \div 7$

18. What is the sum of the smallest and the largest of the following numbers?

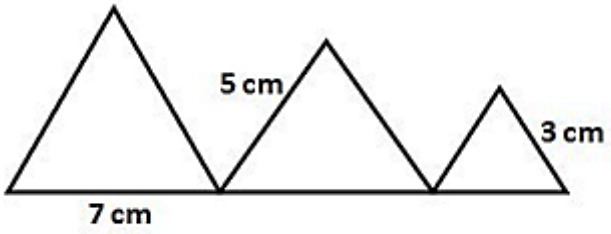
0.514, 1.823, 0.99 and 0.1770

A) 0.684 B) 1 C) 2 D) 2.82

19. If the sum of the factors of 10 is 1+2+5+10=18, then what is the sum of the factors of 12?

A) 28 B) 26 C) 18 D) 12

20. The given figure is made by three different equilateral triangles. Find the perimeter of the whole figure.

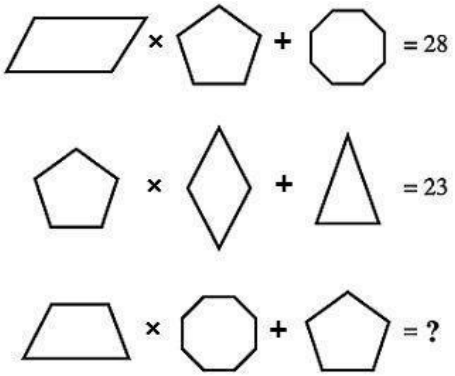


A) 30 cm B) 36 cm C) 40 cm D) 45 cm

21. Find the value of 15 - 14 + 13 - 12 + 11- 10 + 9 - 8 + 7 - 6 + 5 - 4 + 3 -2 + 1.

A) 8 B) 6 C) 12 D) 114

22. What is the value of a question mark?



A) 29 B) 37 C) 35 D) 38

23. A pet store has 30 fish tanks. Each tank holds 7 fish. How many fish are there in total?

A) 140 B) 210 C) 240 D) 280

24.

Andy has a jar with 70 marbles in it. He gives away $\frac{2}{5}$ of his marbles to his friends. How many marbles does he have left?

A) 42 B) 40 C) 30 D) 60

25. A garden has 56 plants arranged in rows. Each row has an equal number of plants. There are 4 plants in each row. How many rows are there in the garden?

A) 12 B) 13 C) 14 D) 15

26. The length of a rectangle is 17 centimeters and width is 13 centimeters. What is the perimeter of the rectangle?

A) 50 centimeters B) 60 centimeters
C) 70 centimeters D) 80 centimeters

27. Ali can type 90 words in 2.5 minutes. How many words can he type in 12 minutes?

A) 432 words B) 396 words
C) 378 words D) 450 words

28. A $3\times4\times5$ solid block is made up of $1\times1\times1$ unit cubes. The outside surface of the block is painted black. How many unit cubes have exactly one face painted black?

A) 16 B) 18 C) 20 D) 22

29. A palindrome is a whole number that is the same forward or backwards. For example 343 is a palindrome. What is the largest palindrome less than 2000?

A) 1991 B) 1999 C) 1919 D) 1111

30. At a local Thai dessert shop, egg tarts are sold in boxes of 5, 10 and 20. What is the least number of boxes that can contain 75 egg tarts?

A) 4 B) 5 C) 6 D) 7

31. A farmer has an equal number of sheep in three different fields on his farm. Which could be the number of all the sheep farmer has?

A) 224 B) 215 C) 186 D) 266

32. Calculate.

333+3033+3303+3330.

A) 9999 B) C) D)

33. What time will it be after 123 hours if it is 11:00 a.m. now?

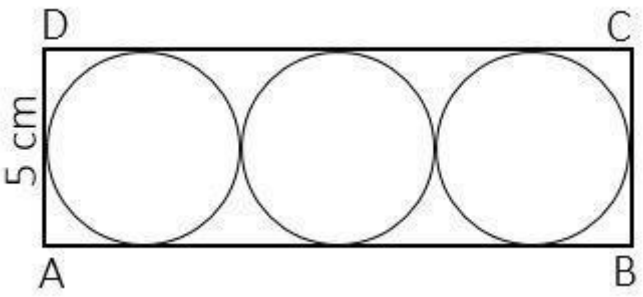
A) 07:00 a.m. B) 03:00 p.m.

C) 08:00 a.m. D) 02:00 p.m.

34. Find the product of $(30-15)(30-16)(30-17)\ldots(30-50)$.

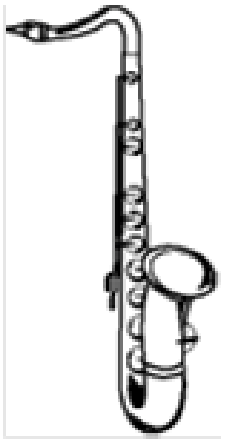
A) 0 B) 1 C) -57400 D) -12500

35. ABCD is rectangle and three identical circles touch each other and |AD|=5 cm. Find the length of |AB|.



A) 15 cm B) 10 cm C) 20 cm D) 7.5 cm

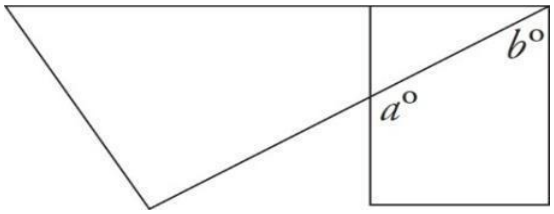
36. John practices on the saxophone for 20 minutes in each time, 4 times a day, 6 days each week. How many hours does he practice each week?



A) 8 hours B) 6.5 hours

C) 7.5 hours D) 9.5 hours

37.

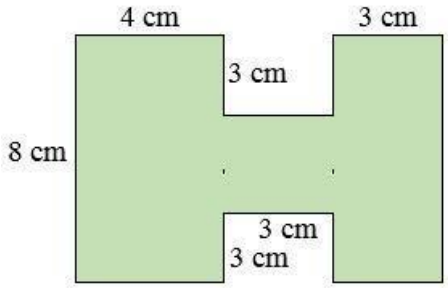


The figure above is formed by a triangle overlapping a rectangle.

What is the value of $a^o + b^o = ?$

A) 90° B) 120° C) 150° D) 180°

38. Calculate the area of the given shape.



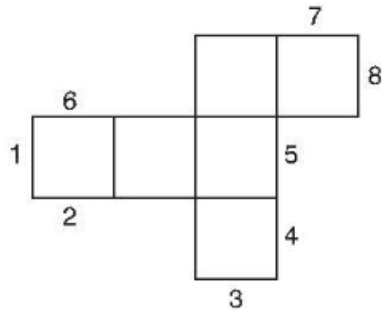
A) 62 cm^2 B) 65 cm^2 C) 73 cm^2 D) 77 cm^2

39. What letter is in the 50th position in the pattern below?

I M C O I M C O I M C O . . .

A) I B) M C) C D) O

40. A net of a cube is given in the figure below. When the net is closed, which side the side number 4 will meet?



A) 5 B) 7 C) 8 D) 1