



International
ONLINE **M**ath **Challenge**

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Past Papers 2022

Category 1

Category-1 IMC 2022

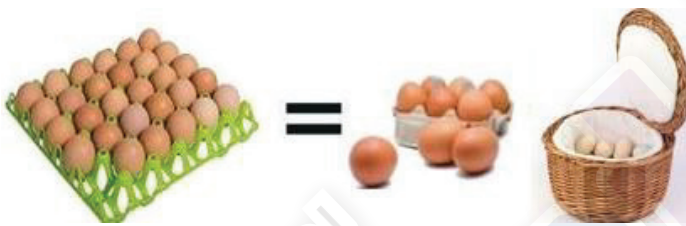
1. Calculate $9 \div 3 \times (2 + 1)$.

- A) 9 B) 1 C) 27 D) 3

2. If one year equals 365 days, how many hours are there in a year?

- A) 389 B) 8760 C) 36500 D) 365

3. How many eggs are in the egg basket?



- A) 20 B) 21 C) 24 D) 23

4. Arrange the following numbers in descending order.

10101, 10110, 10009, 10099, 10990.

- A) 10101, 10110, 10009, 10099, 10990
B) 10101, 10009, 10110, 10099, 10990
C) 10101, 10009, 10110, 10990, 10099
D) 10990, 10110, 10101, 10099, 10009

5. What is ★ in the pattern below?

3, 7, 15, 31, 63, ★

- A) 127 B) 123 C) 125 D) 94

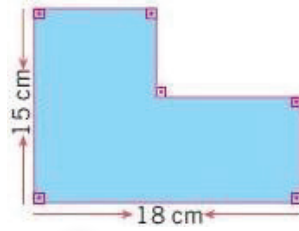
6. Evaluate $A - B + C$.

- A) 7 B) 11 C) 3 D) 21

$$\begin{array}{r} 28A5 \\ + B74C \\ \hline 8642 \end{array}$$

7. Find the perimeter of the shape.

- A) 33 B) 16 C) 46 D) 66



8. How many cubes are there in the cube structure?

- A) 15 B) 18 C) 19 D) 16



9. If A and B be integers such that $A \times B = 36$, which of the following is an impossible value of $A + B$?

- A) 20 B) 37 C) 12 D) 10

10. A telephone provider costs 25 cents per 10-second phone call. How much does a phone call of 2 minutes cost? (1USD=100 cents, 1minute=60 seconds)

- A) 1 USD B) 1.5 USD C) 3 USD D) 2.5 USD

11. According to the following diagram, find the value of the circle.

- A) 18 B) 19 C) 20 D) 21

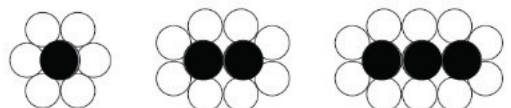
$$\star + 3 = 14$$

$$\star + \Delta = 17$$

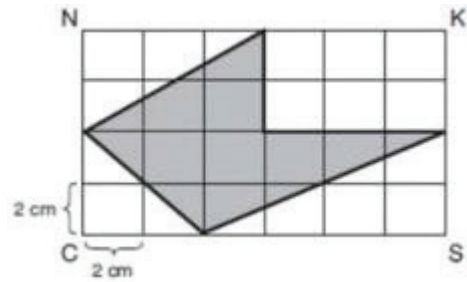
$$\Delta + \circ = 27$$

12. In the following picture first three steps of the series are given. How many circles are used in the 5th step? (Hint: You should count the black circles as well.)

- A) 19 B) 32 C) 14 D) 5



13. The rectangle CSKN below is divided into 24 identical squares having a side length of 2cm each. Find the area of the unshaded region of the following figure.



- A) 40 cm^2 B) 50 cm^2
 C) 60 cm^2 D) 70 cm^2

14. If $70000 + \star + 40 + 5 = 70645$, find the value of \star .

- A) 6000 B) 600 C) 60 D) 6

15. Find the missing number of the following pattern.



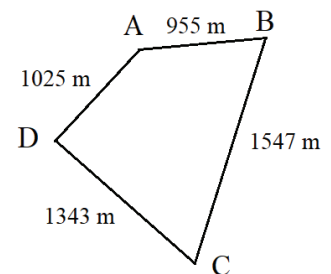
- A) 850 B) 825 C) 805 D) 795

16. Find the number that should be filled in the blank.

$2 \text{ km } 5 \text{ m } 7 \text{ cm} = \square \text{ cm}$

- A) 2507 B) 20507 C) 200507 D) 205070

17. Mr. Josh travels from point A to point B, then to point C, and Mr. Carl travels from point A to point D, then to point C. Find the sum of the distance they traveled.



- A) 4870 m B) 4087 m
 C) 4257 m D) 3970 m

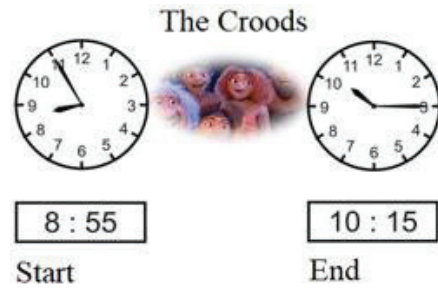
18. Three water jugs are given, and the numbers represent the amount of water in the jugs. How much more water is needed to fill the container with a 2500 ml capacity?



- A) 810 ml B) 748 ml
 C) 650 ml D) 558 ml

19. The duration of the movie "The Croods" is ___ hours___ minutes.

- A) 1 hour 40 minutes
- B) 1 hour 30 minutes
- C) 1 hour 20 minutes
- D) 1 hour 10 minutes



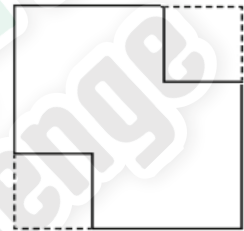
20. Find all the letters with parallel lines.

H, N, W, X, Y, Z

- A) H,N,Z
- B) N,W,Z
- C) W,X,Y,Z
- D) H,N,Z,W

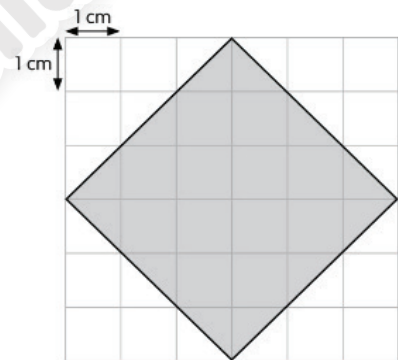
21. A square of side 7 cm is cut out of the corners 2 cm as given below. Find the perimeter of the figure.

- A) 20 cm
- B) 24 cm
- C) 28 cm
- D) 32 cm



22. Find the area of the shaded region in the following figure.

- A) 9 cm²
- B) 12 cm²
- C) 15 cm²
- D) 18 cm²



23. Find the smallest decimal.

5.405, 5.450, 5.054, 5.5

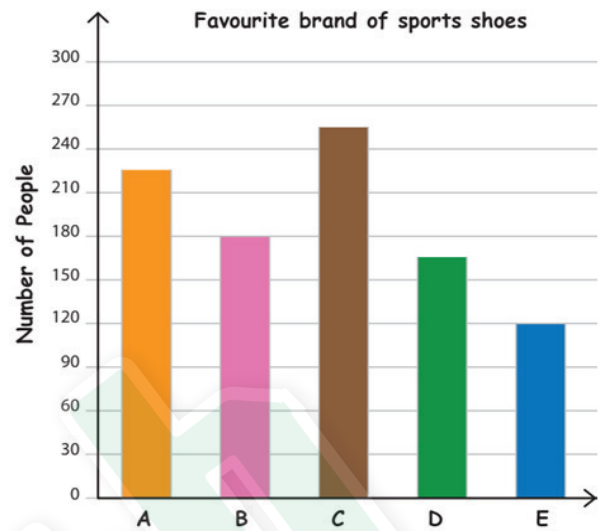
- A) 5.405
- B) 5.450
- C) 5.054
- D) 5.5

24. Round the number 56873 to the nearest hundred.

- A) 56800
- B) 56900
- C) 57000
- D) 56870

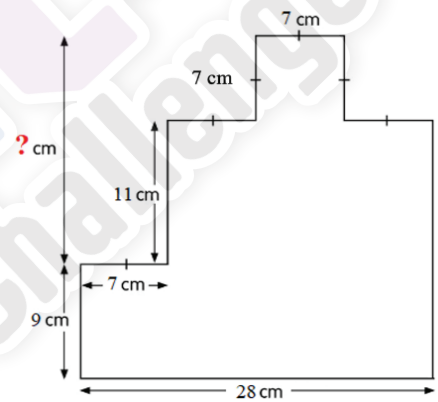
25. The bar graph below shows the number of people who like different brands of sports shoes. How many more people like Brand B than Brand E?

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



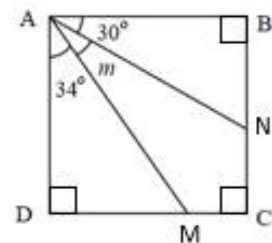
26. Which number should replace the question mark in the given figure?

- A) 18 B) 27
C) 20 D) 34



27. ABCD is a square. Find the measure of angle $\angle MAN$.

- A) 33° B) 36°
C) 25° D) 26°

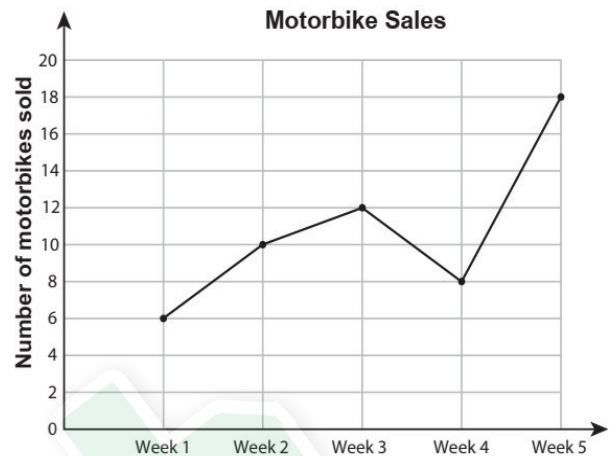


28. Order the given numbers from the smallest to the greatest.

$$5\frac{2}{5}, \frac{25}{4}, 6.$$

- A) $5\frac{2}{5}, \frac{25}{4}, 6$ B) $\frac{25}{4}, 6, 5\frac{2}{5}$ C) $5\frac{2}{5}, 6, \frac{25}{4}$ D) $6, \frac{25}{4}, 5\frac{2}{5}$

29. The line graph shows the number of motorbikes sold each week. How many motorbikes were sold in the first three weeks?



- A) 18 B) 26
C) 28 D) 36

30. Which of the following number is the largest?

- A) 8.723 B) 9.216 C) 9.30 D) 8.70

31. Find the missing value of $7 \times \square = 84 - 49$.

- A) 5 B) 7 C) 12 D) 18

32. Find the missing value of $10 \times 10 \times 10 \times 10 = 10 \times 20 \times \square$.

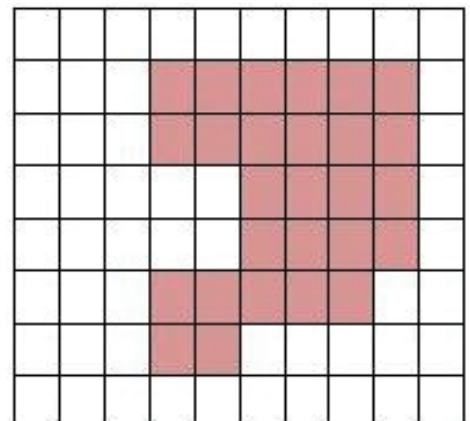
- A) 10 B) 20 C) 50 D) 100

33. Given $24 \times 24 > Y$. What is the largest integer that can replace Y?

- A) 577 B) 576 C) 575 D) 574

34. Each square on the grid is 1 unit square. Find the perimeter of the shaded figure.

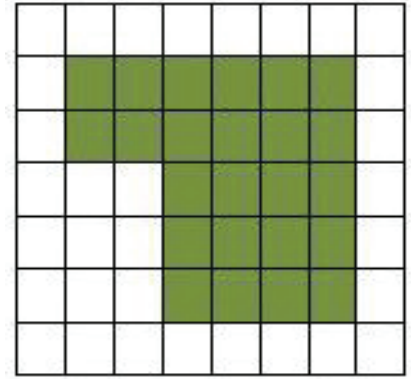
- A) 24 B) 25
C) 27 D) 28



35. Each square on the grid is 1 unit square. Find the area of the shaded figure.

- A) 24
C) 28

- B) 26
D) 32



36. The clock shows the time that Mrs. Cara got off of work on Saturday evening. She went to work at 11:00 A.M. How long did she work?

- A) 6h B) 6h 30m C) 7h D) 7h 30m



37. If 13, 18, 24, ..., 39, 48. Find the missing number.

- A) 28 B) 31 C) 33 D) 36

38. Zeke loves reading. He read four books in January, three books in February, seven books in March, and six books in April. Find the average of books Zeke reads per month.

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

39. What is $\bullet + \blacksquare + \blacktriangle$?

$$\begin{array}{r} 6\bullet9 \\ + \blacksquare 7\blacktriangle \\ \hline 1027 \end{array}$$

- A) 12 B) 15 C) 17 D) 19

40. Given the numbers 285, 349, 174, and 444. What is the number we get when we round the numbers to the nearest hundreds and then sum all the rounded ones?

- A) 1400 B) 1300 C) 1200 D) 1100

Answers:

1. A) 9 2. B) 8760 3. A) 20 4. D) 10990, 10110, 10101, 10099, 10009 5. A) 127
6. B) 11 7. D) 66 8. A) 15 9. D) 10 10. C) 3 USD 11. D) 21 12. A) 19
13. C) 60 cm^2 14. B) 600 15. C) 805 16. C) 200507 17. A) 4870 m 18. D) 558 ml
19. C) 1 hour 20 minutes 20. D) H, N, Z, W 21. C) 28 cm 22. D) 18 cm^2
23. C) 5.054 24. B) 56900 25. B) 60 26. A) 18 27. D) 26^0 28. C) $5\frac{2}{5}$, 6, $\frac{25}{4}$
29. C) 28 30. C) 9.30 31. A) 5 32. C) 50 33. C) 575 34. D) 28 35. A) 24
36. D) 7h 30m 37. B) 31 38. B) 5 39. B) 15 40. C) 1200

