



# CREST Mathematics Olympiad (CMO)

Previous Year Paper (2023-24)

## Class 5 (Set - A)

Time Allowed: 1 hour

Maximum Marks: 60

- Additional **10 minutes** will be allotted to fill up information on the OMR Sheet, before the start of the exam.
- Fill in all the mandatory fields clearly on the OMR Sheet.
- There are a total of **50 questions** in this booklet comprising **2 sections** namely the **Practical Mathematics & Achievers' Section** consisting of **40 questions (1 mark each) & 10 questions (2 marks each)** respectively.
- There is no negative marking. The use of a calculator is not permitted.
- There is **only ONE correct option** to a given question.
- Use **HB Pencil or Blue / Black ballpoint pen only** for marking the correct choice of answers on the OMR Sheet.
- Rough work is to be done in the space provided in the test booklet. An extra plain sheet may be provided by the school for the rough work.
- The OMR Sheet will be handed over to the invigilator at the end of the exam.
- No candidate is allowed to carry any textual material, printed or written, bits of paper, any electronic device, etc. inside the examination hall.
- The use of unfair means may result in the cancellation of the exam. Any such instances may be reported at **+91-98182-94134** or **info@crestolympiads.com**

**DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO**

**FILL IN THE DETAILS**

Candidate Name: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_

CREST ID: \_\_\_\_\_

## Practical Mathematics (Each Question is 1 Mark)

1. In the given calculation the answer is incorrect due to mistakes in one of the digits. Find the incorrect digit:

$$\begin{array}{r}
 472 \\
 \times 75 \\
 \hline
 2360 \quad \text{Step 1} \\
 3204 \quad \text{Step 2} \\
 \hline
 34400 \quad \text{Step 3}
 \end{array}$$

- a. 3 in step 1      b. 4 in step 2  
 c. 2 in Step 2      d. 3 in Step 3
2. Simplify:  
 $-5/12 + 7/(-5) - 1/3$
- a.  $-2\frac{3}{20}$       b.  $2\frac{3}{20}$   
 c.  $\frac{-13}{20}$       d.  $\frac{13}{20}$
3. The weight of 1 bag of rice is 27.54 kg. What is the weight of 17 such bags of rice?
- a. 322.24 kg      b. 386.75 kg  
 c. 432.12 kg      d. 468.18 kg
4. Which of the given options should come in the box if the given numbers are in ascending order?
- |              |              |          |              |              |
|--------------|--------------|----------|--------------|--------------|
| <b>15.17</b> | <b>16.35</b> | <b>?</b> | <b>17.92</b> | <b>18.01</b> |
|--------------|--------------|----------|--------------|--------------|
- a. 17.88      b. 16.29  
 c. 17.93      d. 16.111
5. Albert sold 175 mobile phones at 9,500 cents each. From the amount that he earned from selling, he bought 95 tablets. Find the cost of each tablet:
- a. 10,090 cents      b. 16,625 cents  
 c. 17,500 cents      d. 27,500 cents
6. During a school event, arrangements for 12,825 people were made. 84% of people actually came to the event. Out

of this, one-seventh are children and the rest are adults. Find the number of adults that are present in the event:

- a. 9,147      b. 9,234  
 c. 9,843      d. 9,326
7. While giving a test of 3 hours, Joe realised that the time left was only one-fifth of the time passed. How much time has already passed?
- a. 90 minutes      b. 180 minutes  
 c. 150 minutes      d. 270 minutes
8. Three drums containing diesel have capacities of 306 L, 432 L, and 972 L. Find the maximum capacity of a container that can measure the diesel of all of these drums exactly:
- a. 18 L      b. 24 L  
 c. 10 L      d. 32 L
9. Albert is driving at the speed of 14.5 m/s. How much distance will he cover in 3 hours?
- a. 199 km      b. 421.5 km  
 c. 284.2 km      d. 156.6 km
10. Rebecca weighs herself every month. Two months earlier, her weight was 48 kg. She gained 2 kg 15 g in the first month and lost 3.39 kg last month. How much does she weigh now?
- a. 49 kg 800 g      b. 48 kg 750 g  
 c. 50 kg 500 g      d. 46 kg 625 g
11. During a sports event, Milo completed the first round of the circle in 8 and a half minutes, the second round in 10 minutes and 34 seconds and the final round in 11.2 minutes. Find the time taken by him to complete the race:

- a. 30 minutes 24 seconds
- b. 28 minutes 42 seconds
- c. 30 minutes 16 seconds
- d. 31 minutes 54 seconds

12. Find  $A + B + C$  in the given multiplication algorithm:

$$\begin{array}{r}
 5637A \\
 \times 8693 \\
 \hline
 169110 \\
 5073B0x \\
 338220xx \\
 450960xxx \\
 \hline
 49C024410
 \end{array}$$

- a. 9
- b. 3
- c. 5
- d. 11

13. Rebek bought a bag for herself. Her aunt had the same bag which she had bought for 9,950 cents. Rebek bought the bag at 17.5% less than the price her aunt paid. Find the difference between the amount Rebek and her aunt paid:

- a. 1,741.25 cents
- b. 1,279.5 cents
- c. 8,204.9 cents
- d. 7,841.25 cents

14. What degree of angle is made when the minute hand moves one minute in a clock?

- a.  $30^\circ$
- b.  $20^\circ$
- c.  $15^\circ$
- d.  $6^\circ$

15. Students of grade 5 went on a night camp from their school. They left for the night camp at 10:15 am on Saturday and returned at 5:30 pm on Sunday. Find the duration of the night camp(including the journey)::

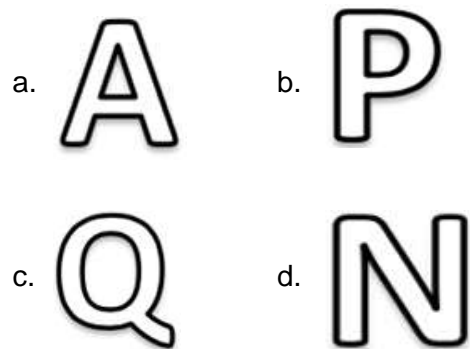
- a. 31 hours 15 minutes
- b. 24 hours 30 minutes
- c. 7 hours 15 minutes
- d. 29 hours

16. Which of the given values of P, Q and R are correct for the given long-division method?


$$\begin{array}{r}
 1\boxed{P}5 \\
 24\overline{)3489} \\
 \underline{-2\boxed{Q}} \\
 108 \\
 \underline{-96} \\
 129 \\
 \underline{-12\boxed{R}} \\
 9
 \end{array}$$






- a.  $P = 2, Q = 5, R = 8$
- b.  $P = 7, Q = 2, R = 8$
- c.  $P = 4, Q = 4, R = 0$
- d.  $P = 2, Q = 7, R = 1$

17. Which of the given options has rotational symmetry?



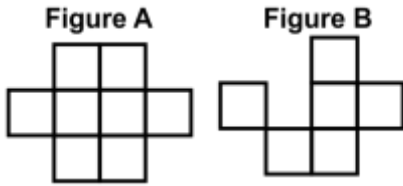
18. Nikki is an artist. She recorded the number of paintings she sold in the given pictograph. Find the difference between the paintings sold in April and the total number of paintings she sold:

1  = 15 paintings

Months	Number of paintings sold
January	
February	
March	
April	
May	

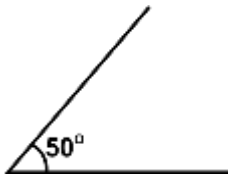
- a. 360
- b. 270
- c. 180
- d. 300

19. In the given figures, the perimeter of Figure A is 224 cm. If blocks of Figure A and Figure B are of the same length (each block is a square), then find the perimeter of Figure B:



- a. 402 cm      b. 128 cm  
c. 738 cm      d. 256 cm

20. Find the supplement of the given angle:



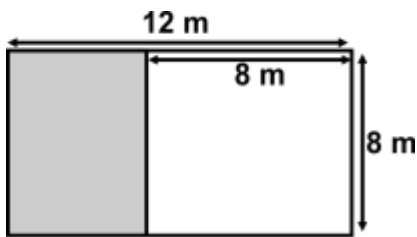
- a.  $90^\circ$       b.  $180^\circ$   
c.  $130^\circ$       d.  $50^\circ$

21. Find the value of p in the given equation:

$$36 - p \{48 - (9 \times 4)\} = 0$$

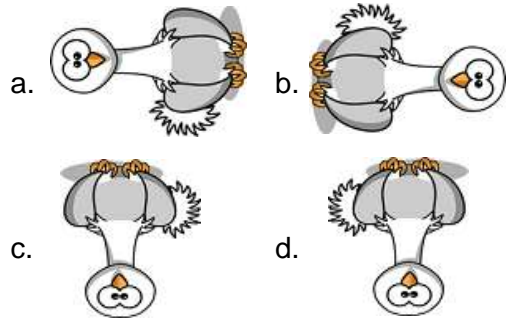
- a. 3      b. 6  
c. 8      d. 9

22. Find the area of the shaded region:

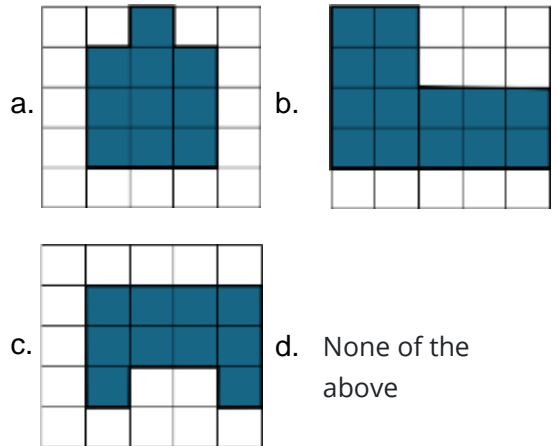
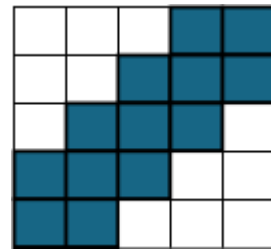


- a.  $60 \text{ m}^2$       b.  $64 \text{ m}^2$   
c.  $88 \text{ m}^2$       d.  $32 \text{ m}^2$

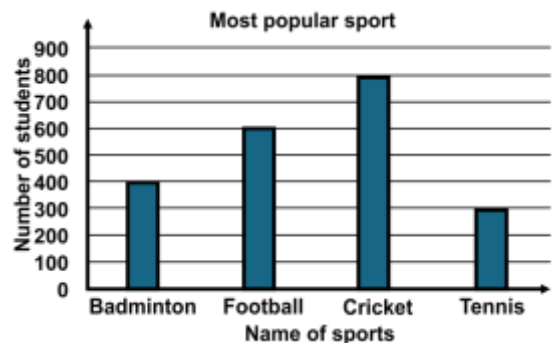
23. Which of the following figures will be made if we rotate the given figure  $180^\circ$  in the clockwise direction?



24. Area of the shaded region of which of the given options would be greater than the area of the shaded region of the given figure? (1 block = 4 sq. m)



25. The given bar graph represents the data collected from the students of a school about the most popular sport. What fraction of the total children think Tennis is the most popular sport?



- a.  $\frac{3}{7}$                       b.  $\frac{1}{21}$   
 c.  $\frac{1}{7}$                          d.  $\frac{2}{21}$

26. Duke would like to write the number 73,980,129 in words. Which of the following is the correct answer?

- a. Seven billion thirty-nine million eighty thousand one hundred and twenty-nine  
 b. Seven hundred thirty-nine million eight hundred one thousand and twenty-nine  
 c. Seven million nine hundred eight thousand one hundred and twenty-nine  
 d. Seventy-three million nine hundred eighty thousand one hundred and twenty-nine

27. Choose the correct option:  
 The LCM of 5, 8, 12, 20 will not be a multiple of:

- a. 3                              b. 9  
 c. 8                              d. 5

28. The difference between the greatest and the smallest numbers formed by the digits 2, 3, 5 and 7 is XYZX, where X, Y and Z are digits, then X is \_\_\_\_\_.

- a. 5                              b. 8  
 c. 9                              d. 10

29. Which of the following is true?

- a. Diameter passes through the centre of the circle  
 b. The longest chord is the diameter.  
 c. The diameter is equal to 2 times the radius  
 d. All the above

30. Which place of the digit should be divisible by 4 so that the number is divisible by 4?

- a. Ten's  
 b. Unit's  
 c. Hundreds  
 d. Number formed by the last two digits

31. Which of the following alphabets have the same mirror image?

- a. B                              b. J  
 c. G                              d. H

32. The product of two numbers is 1280 and their H.C.F. is 8. Find the L.C.M of the two numbers:

- a. 160                          b. 150  
 c. 120                          d. 140

33. Alice went to the store to get a ribbon to decorate her tank top. She bought a ribbon with a length of y cm. Alice divided it into four equal pieces and used those pieces to fashion her four tank tops. Write the phrase to determine how much ribbon is utilised for each tank top.

- a.  $y - 4$                       b.  $\frac{y}{4}$   
 c.  $4 + y$                       d.  $y \times 4$

34. Max requested assistance from his older brother in identifying the equation that each entry in the table below describes. For the table below, write the proper equation for y.

x	y
10	30
9	27
8	24
7	21
6	18

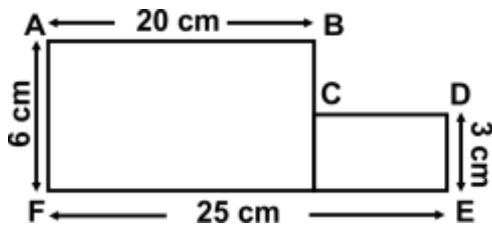
- a.  $y = x$                       b.  $y = 2x$   
 c.  $y = 3x$                       d.  $y = 3 + x$

35. Helen spent \$3.70 each on two carpets and \$2.40 each on three flower

bouquets. She gave the cashier her money at the counter and she was given \$5.40 in change. How much did Helen give the cashier before she got her change?

- a. \$22                      b. \$20  
c. \$18                      d. \$16

36. Find the perimeter of the below given figure below.

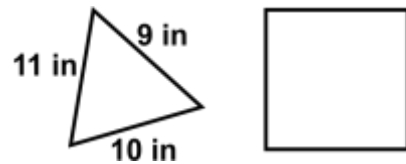


- a. 54 cm                      b. 62 cm  
c. 87 cm                      d. 92 cm

37. What is the perimeter of an equilateral triangle of side 20 cm?

- a. 20 cm                      b. 40 cm  
c. 60 cm                      d. 80 cm

38. The perimeter of the square is twice the perimeter of the triangle. What is the length of the side of the square?



- a. 10 in                      b. 12 in  
c. 15 in                      d. 18 in

39. Margaret wishes to replace the carpet in her rectangular dining room. Her dining room is a rectangle of 5 metres by 7 metres. What will be the area of her carpet that covers her entire dining room?

- a. 20 m<sup>2</sup>                      b. 25 m<sup>2</sup>  
c. 30 m<sup>2</sup>                      d. 35 m<sup>2</sup>

40. A rectangular farm owned by Samuel measures 80 yards in length and 60 yards in width. Find the area of the farm (square yards).

- a. 2100                      b. 2200  
c. 4800                      d. 5200

## Achievers' Section (Each Question is 2 Marks)

41. Solve the following:

$$\frac{4}{9} + 11\frac{2}{7} + 9\frac{3}{4} - 1\frac{5}{6}$$

- a.  $1\frac{182}{250}$                       b.  $1\frac{243}{311}$   
c.  $2\frac{230}{233}$                       d.  $2\frac{163}{252}$

42. What is the biggest factor of 481 besides itself?

- a. 21                              b. 37  
c. 29                              d. 13

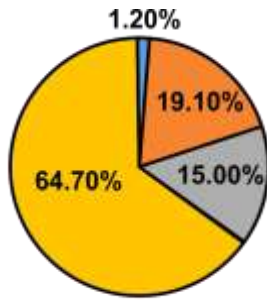
43. Convert 1,382,400 seconds into number of days:

- a. 20 days                      b. 16 days  
c. 6 days                        d. 12 days

44. What is the greatest number that will divide 476 and 303 leaving remainders 4 and 8 respectively?

- a. 25                              b. 65  
c. 59                              d. 72

45. Look at the image given below and answer the following question:  
If the total number of vehicles is 3,621,983 in a city, then find the difference between the numbers of 2-wheelers and buses (rounded off to the nearest whole number):



■ Autos ■ Cars ■ Buses ■ 2 - Wheelers

- a. 1,850,322      b. 1,800,126  
c. 83,902          d. 508,844

46. Subtract the place value of 6 and the face value of 6 from the number 264,029 and round off the difference to the nearest hundreds:

- a. 59,000          b. 60,000  
c. 559,000        d. 4000

47. Which of the following is the greatest measure that can be used to measure the quantities 68 m, 102 m and 119 m?

- a. 34                b. 51  
c. 13                d. 17

48. Jesecca has a variety of geometrical tools in her box, and she uses them to construct a triangle. When she

measured her triangle, she discovered that none of the sides or angles were equal. What kind of triangle did she draw?

- a. Isosceles triangle  
b. Equilateral triangle  
c. Scalene triangle  
d. Acute angled triangle

49. Harry wants to repaint the wall in his office space. He sought the assistance of a designer for this. Find the price to paint a wall that is 30 metres long and 10 metres wide for \$10 per square metre.

- a. \$300              b. \$3000  
c. \$3800            d. \$3887

50. A rectangular screen's height is determined to be 20 cm. Its surface is measured at 240 cm<sup>2</sup>. Determine the given screen's width.

- a. 10 cm            b. 12 cm  
c. 13 cm            d. 14 cm

## Answer Key

- |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|
| 1. c  | 2. a  | 3. d  | 4. a  | 5. c  | 6. b  | 7. c  |
| 8. a  | 9. d  | 10. d | 11. c | 12. b | 13. a | 14. d |
| 15. a | 16. c | 17. d | 18. c | 19. d | 20. c | 21. a |
| 22. d | 23. c | 24. b | 25. c | 26. d | 27. b | 28. a |
| 29. d | 30. d | 31. d | 32. a | 33. b | 34. c | 35. b |
| 36. b | 37. c | 38. c | 39. d | 40. c | 41. d | 42. b |
| 43. b | 44. c | 45. b | 46. b | 47. d | 48. c | 49. b |
| 50. b |       |       |       |       |       |       |