DAV BR PUBLIC SCHOOL, BINA
PRACTICE PAPER SESSION 2023-24
Class VIII   Subject: MATHEMATICS

Time Allowed: 3 HRS   **MM: 80**

General Instructions: 1. This question paper contains five sections A, B, C, D and E. Each section is compulsory.

Section – A: It comprises of 10 MCQs and 2 Assertion &Reasoning questions of 1 mark each.

Section – B: It comprises of 2 Case -Study Based Questions of 4 marks each.

Section – C: It comprises of 8 SA type of questions of 2 marks each.

Section – D: It comprises of 8 SA type of questions of 3 marks each.

Section - E: It comprises of 4 LA type questions of 5 marks each**.**

SECTION - A

1   If $\sqrt{256}$ - x = $\sqrt{12100}$, then the value of 'x' is -   **1**

   i) 94   ii) -94   iii) 126   iv) -126

2   An item marked at Rs. 840 is sold for Rs. 714. The discount % is: **1**

     i)   10%   ii) 15%   iii) 20%   iv) 25%

3   The degree of polynomial $4x^3 – 3x^2+5x -6$ is-   **1**

     i)   3   ii) 2   iii) 1   iv) 0

4.   The quadrilateral whose diagonals are perpendicular to each other is: **1**

   i) Parallelogram   ii) Rectangle   iii) Trapezium   iv) Rhombus

5.   If 12 workers can build a wall in 50 hours, how many workers will be required to do the same work in 40 hours?   **1**

     i)   10   ii) 13   iii) 14   iv) 15

6.   If a polyhedron has 6 vertices and 12 edges. What is the number of faces it has?

   i) 6   ii) 8   iii) 12   iv) 18

7.   The perpendicular distance of the point P(3,4) from the x-axis is-

     i)   3 units   ii) 4 units   iii) 7 units   iv) 1 unit

8.   If the measure of an exterior angle of regular polygon is 72^0, then number of its sides is-

     i)   6   ii) 4   iii) 5   iv) 3

9.   The area of a trapezium is 480 cm2, the distance between two parallel sides is 15 cm and one of the parallel sides is 20 cm. The other parallel side is:

i) 20 cm ii) 34 cm iii) 44 cm iv) 50 cm

10. The number of lines of symmetry which a quadrilateral cannot have

i) 1 ii) 2 iii) 3 iv) 4

Direction – In question numbers 11 and 12, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option out of the following:

i) **Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)**

ii) **Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)**

iii) **Assertion (A) is true but reason (R) is false.**

iv) **Assertion (A) is false but reason (R) is true.**

11. **Assertion (A)** – The distance of point A (3,4) from the y-axis is 3 units.

Reason (R) – Any point lying on the y-axis is of the form (y,0).

12. **Assertion (A)** – A quadrilateral ABCD in which AB = 4.5 cm, BC = 5 cm, CD = 3.8 cm, DA = 4 cm and diagonal AC = 8 cm cannot be constructed

Reason (R) – In a triangle, the sum of the lengths of any two sides is always greater than the third side.

SECTION - B

13 The festivity season has started. People have started doing the shopping for the festivals. Nivedita told her mother that she is fed up with 32 inches LED TV and wishes to have 43 inches LED TV now. Her mother assured her that she will fulfil her demand.   **4**

Next day, she went with her mother Mamta to the market. They went into a showroom and enquired about the price of the 43 inches Led TV. The shopkeeper showed them a LED TV, the marked price of that LED TV was Rs. 32,500. The shopkeeper told them that there is a 20% Diwali discount these days. She agreed to buy the TV and she asked the shopkeeper to pack it. After selling the LED TV for Rs. 32,500 to Mamta, the shopkeeper still made a profit of 30%

Based on the above information,
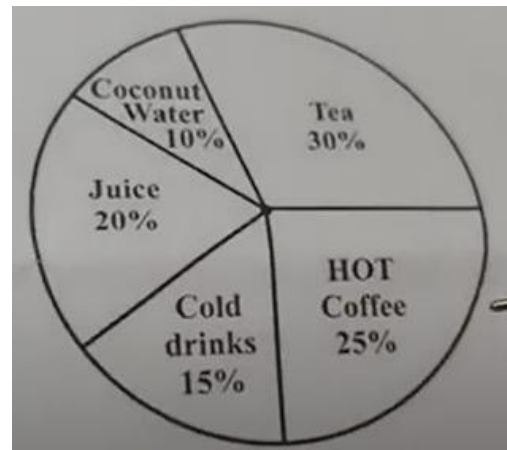
answer the following questions:

i) What will be the amount of discount/

a) Rs. 4500   b) Rs. 5500   iii) Rs. 6500   iv) Rs. 7500

ii)   What is formula to find S.P. when M.P. and Discount are given?

a) M.P. – Discount   b) M.P. + discount   c) Discount – M.P. d) None

iii)   At what price did the shopkeeper sell the LED after offering discount/

OR

What will be the C.P. of the LED?

14. In the summer season, a survey was conducted among some people about their favourite drinks. The following pie chart shows the data.   **4**

Based on the above information, answer the following questions:

i)   If 300 people like coffee, then the number of people on which survey was conducted is-

a) 100   b) 120   c) 1200   iv) 2000

ii)   The ratio of number of people who like coffee to the total number of people is-

a) 1:4   b) 5:6   c) 2:5   d) 3:20

iii)   What is the central angle in the pie chart for the people who like cold drinks?

OR

What is the total number of people who like juice and coconut water?

SECTION - C

15. Name a 2-dimensional geometrical figure having an angle of rotation 90^0.   **2**

16. After allowing a discount of 20% on the marked price of an article, it is sold for Rs. 480. Find the marked price of the article.   **2**

17. The volume of a cylinder is 28 π cm^3 and height is 7 cm. Find the radius of the base of the cylinder   **2**

18. The population of a town in a particular year is 10,000. If it increases at the rate of 8% per annum, find the population of the town after 2 years. **2**

19. In rectangle PQRS, diagonal PR and QS intersect at O. If ∠RPQ = 30⁰ find ∠ROS. **2**
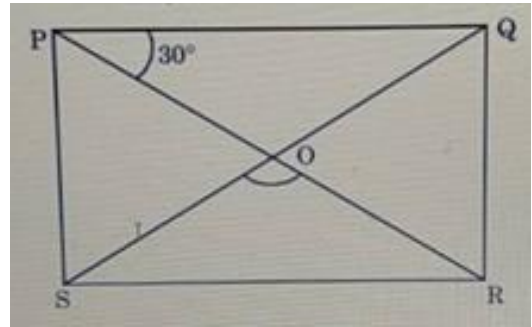
20. Find the cube root of 91125 by estimation method. **2**

21. The length of a pair of adjacent sides of a rectangle are in the ratio 3:4. If its diagonal is of length 20 cm, find the length of the sides of the rectangle. **2**

22. Factorise: $a^2 - (b - c)^2$ **2**

OR

Expand: $(2x - 3y + 2z)^2$

SECTION - D

23. If $2x - 5y = 12$ and $xy = 4$, find the value of $4x^2 + 25y^2$

3

24. Draw points (3,2), (5,2) and (7,2) on a graph paper. Join them in pairs. Line formed by joining these points is parallel to which axis? **3**

25. A train 270 m long is running at 80 km/hr. How much time will it take to cross a platform 130 m long. **3**

OR

A shopkeeper has enough money to buy 40 books, each costing Rs. 125. How many books he can buy if he gets a discount of Rs. 25 on each book.

26. Using factor method, divide $x^2 - 7x + 12$ by x -4

3

27. If $4^x - 4^{x-1} = 24$, then find the value of x.

3

28. In the given figure, ∠A = 75⁰ and CE‖AB. If ∠ECD = 40⁰, find the other two angles of the triangle ABC. **3**
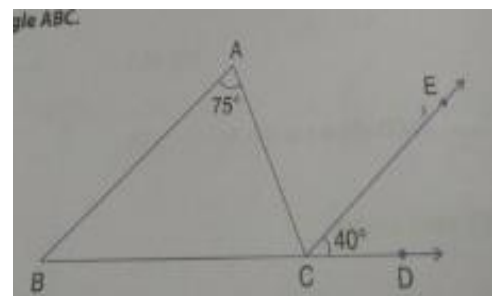
29. The diagonals of a rhombus are in the ratio 5:12. If its perimeter is 104 cm, **3**

find the lengths of the sides and the diagonals.

30. Form a well shuffled deck of 52 playing cards, find out the probability of getting the following out of it when a card is drawn. **3**

   (i)   An ace

    (ii)   A red 10

    (iii) A diamond queen

SECTION - E

31. A certain sum amounts to Rs. 2970. 25 in two years at 9% per annum compounded annually. Find the sum. **5**

32. Construct a Quadrilateral in which AB = CD = 5 cm, BC = 4.5 cm, $\angle B = 45^0$ and $\angle C = 135^0$ using compasses and ruler only **5**

33. The perimeter of a rectangle is 100 m. If the length is decreased by 2 m and the breadth is increased by 3m, the area increases by 44 m2. Find the length and breadth of the rectangle. **5**

OR

The sum of the digits of a 2-digit number is 11. The sum obtained by interchanging the digits exceeds the original number by 27. Find the number

34 Find the area of the pentagonal field shown in the figure. All the dimensions are in metres. **5**
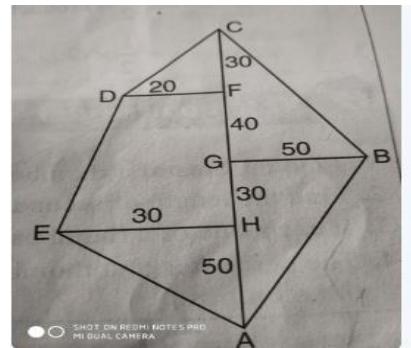
OR

The thickness of hollow metallic cylinder is 2 cm. It is 35 long and its inner radius is 12 cm. Find the volume of the metal required to make the cylinder, assuming it is open, at either end.