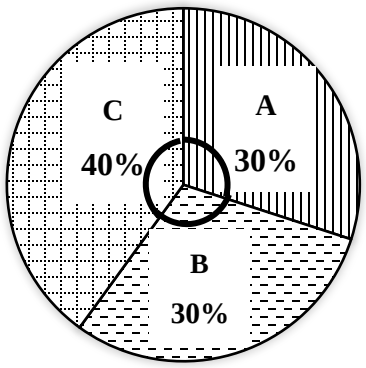
IDEAL INDIAN SCHOOL, DOHA-QATAR
TERM I EXAMINATION, OCTOBER 2023
SUBJECT: MATHEMATICS

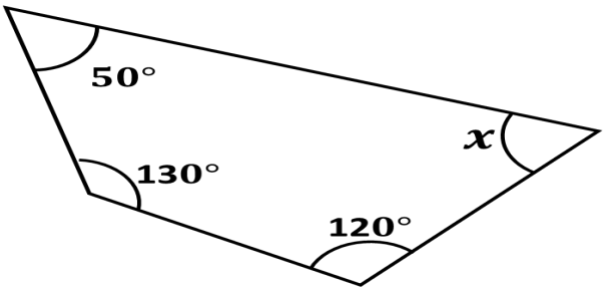
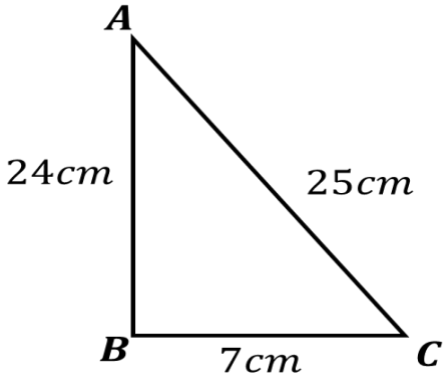
SET 2

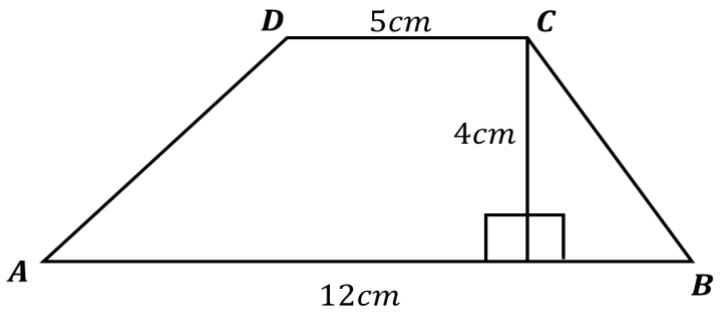
Class: VIII **Max marks: 80**
Date: 08/10/2023 **Duration: 3 hours**

General Instructions:

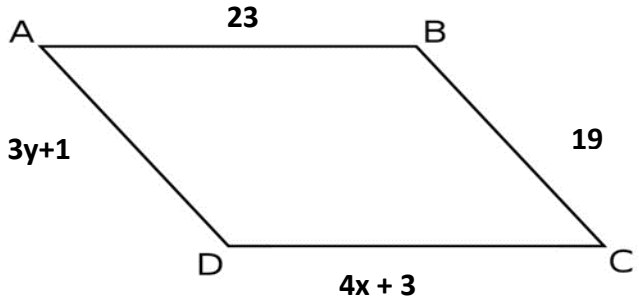
1. This Question Paper has 5 Sections A-E.
2. Section A has 20 MCQs carrying 01 mark each.
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with subparts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Questions of 5 marks, 2 Questions of 3 marks and 2 Questions of 2 marks has been provided. An internal choice has been provided in the 2marks questions of Section E.
8. Draw neat figures wherever required. Take π =22/7 wherever required if not stated.

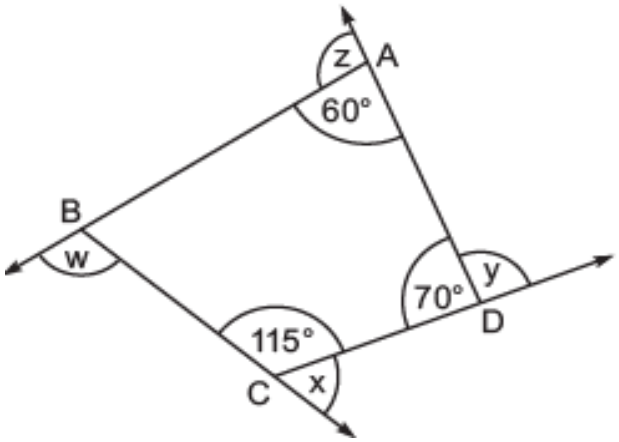
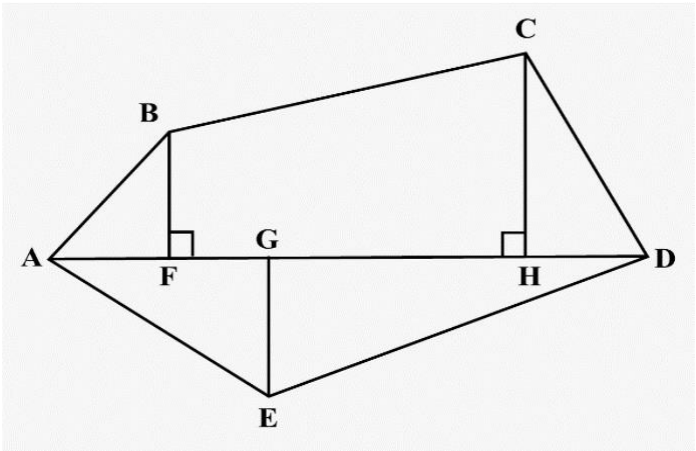
	SECTION A	
S.No	**Section A consists of 20 questions of 1 mark each**	**Marks**
1	Observe the pie chart given below and answer the following question.  The central angle for sector A is (a) 108^0 (b) 144^0 (c) 72^0 (d) 150^0	**1**
2	When a die is thrown what is the probability of getting a prime number. (a) $\frac{1}{6}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) $\frac{2}{6}$	**1**

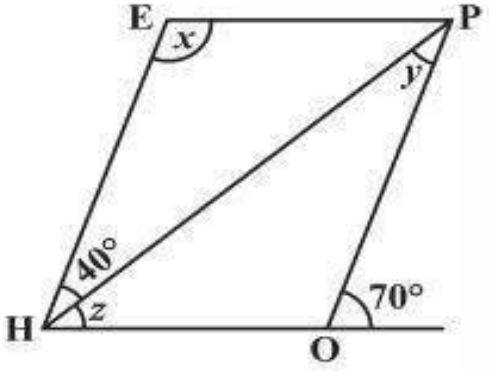
3	Which of the following numbers is not a perfect square? (a) 361 (b) 729 (c) 2025 (d) 153	**1**
4	A cuboid has _____ pairs of identical faces. (a) 2 (b) 1 (c) 3 (d) 6	**1**
5	Which of the following statements is true for cube numbers. (a) Cube of any even number is odd. (b) Perfect cube ends with two zeros. (c) Cube of single digit will always be a single digit. (d) The cube of a single digit number may be a single digit number.	**1**
6	The area of a rhombus is 100 square cm and the length of one of its diagonals is 8cm. Then the length of its other diagonal is_____ (a) 10cm (b) 20cm (c) 25cm (d) 15cm	**1**
7	The value of x in the following figure.  (a) 50^0 (b) 60^0 (c) 130^0 (d) 70^0	**1**
8	The area of the following figure is,  (a) $48cm^2$ (b) 50 cm^2 (c) $77cm^2$ (d) 84 cm^2	**1**
9	Which of the following numbers is a perfect cube. (a) 144 (b) 243 (c) 1000 (d) 2700	**1**

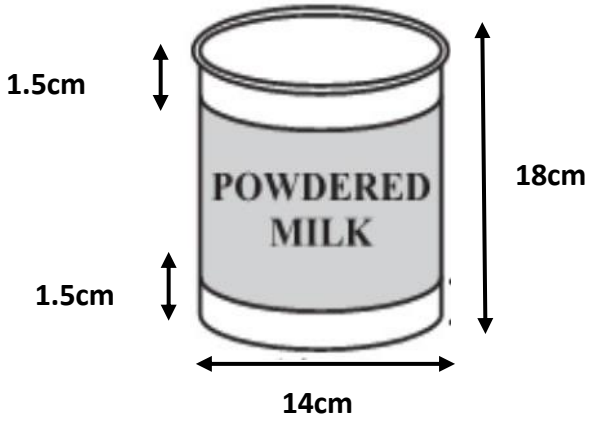
10	Which the following statements is not true (a) The diagonals of rhombus are unequal. (b) The diagonals of rhombus are perpendicular bisectors of each other. (c) The diagonals of square are perpendicular bisectors of each other. (d) The diagonals of rectangles are perpendicular bisectors of each other.	**1**
11	A regular polygon with eight sides is called _____ (a) A pentagon (b) A hexagon (c) A heptagon (d) An octagon	**1**
12	Which of the followings is not a linear equation in one variable. (a) 3x + 2 = 0 (b) 3x – y = 15 (c) p + 2p = 7 (d) 2(y -3) + 7 = 0	**1**
13	How many digits are there in the square root of 99856, (a) 1 (b) 2 (c) 3 (d) 4	**1**
14	The area of the following trapezium is,  (a) $68cm^2$ (b) $40cm^2$ (c) 17 cm^2 (d) 34 cm^2	**1**
15	The cube of (-6) is, (a) 36 (b) 216 (c) - 216 (d) - 36	**1**
16	How many numbers lie between the squares of 27 and 28. (a) 54 (b) 55 (c) 56 (d) 60	**1**
17	All the faces of a cube are, (a) Identical (b) different (c) circular (d) rectangular	**1**
18	The possible unit digit of the square root of 2916, (a) 2 or 8 (b) 2 or 4 (c) 4 or 6 (d) 8 or 6	**1**

19	**Assertion (A):** A rectangle is a regular polygon with 4 sides. **Reason (R):** If all the sides and interior angles of a polygon are equal, then they are known as regular polygon. (a) Both assertion (A) and reason (R) are true, and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason(R) are true, but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true, but reason (R) is false. (d) (d) Assertion (A) is false, but reason (R) is true**.**	**1**
20	**Assertion (A):** The solution of a linear equation 5x+3 = 0 is $\frac{-3}{5}$ **Reason (R):** In general, for a linear equation of the form ax+ b=0, the solution is given by **x** = $\frac{-b}{a}$ **.** (a) Both assertion (A) and reason (R) are true, and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true, but reason (R) is false. (d) Assertion (A) is false, but reason (R) is true.	**1**
	SECTION B	
S.No.	**Section B consists of 5 questions of 2 marks each.**	**Marks**
21	Show that 4096 is a perfect cube. **OR** Find the square root of 3136 by long division method.	**2**
22	Explain how a square is (i) a parallelogram (ii) a rectangle	**2**
23	What is the probability that a number selected from the numbers 1, 2, 3,…,15 is a multiple of 3 ?	**2**

24	Find the side of the cube whose surface area is $600cm^2$. **OR** Find value of x & y in the following parallelogram.  	**2**
25	Write a Pythagorean triplet whose one number is 14.	**2**
	SECTION C	
S.No	**Section C consists of 6 questions of 3 marks each**	**Marks**
26	Find the least number that must be subtracted from 825 to get a perfect square also find the square root of the perfect square so obtained.	**3**
27	Solve the following linear equation in one variable. $\frac{x}{2} - \frac{3x}{4} + \frac{5x}{6} = 21$ **OR** Solve the following linear equation and verify your result. $\frac{4}{6}x + 2 = \frac{7}{3}$	**3**
28	From a well shuffled deck of 52 playing cards, a card selected at random. Find the probability of getting (i) a black card. (ii) a king. (iii) an ace.	**3**
29	The length, breadth and height of a cuboidal chalk box are 20 cm, 15cm and 10cm respectively. Find the total surface area of the chalk box.	**3**
30	Find the cube root of 74088 by prime factorization method. **OR** What is the smallest number by which 8640 must be divided so that the quotient is a perfect cube.	**3**

31	Find the angle measure of x, y, z and w in the following figure, also find $x + y + z + w$.  	**3**
	SECTION D	
S.No	**Section D consists of 4 questions of 5 marks each**	**Marks**
32	A flooring tile has a shape of parallelogram whose base is 28cm and the corresponding height is 20 cm. How many such tiles are required to cover a floor area of $2800 m^2$. **OR** The polygon ABCDE is divided into parts as shown in the given figure. Find its area if AD = 8cm, AH = 6cm, AG = 4cm, AF = 3cm and perpendiculars BF = 2cm, CH = 3cm and EG = 2.5cm.  	**5**
33	(a) In a movie theatre the number of rows is equals to the number of chairs in each row. If the capacity of the theatre is 2025. Find the number of chairs in each row. (a) Find the square root of 79.21	**5**

34	(a) Two adjacent angles of a parallelogram are in the ratio 4:5. Find the measure of each of its angles. (b) Identify the quadrilateral that have (i) two pairs of parallel sides. (ii) two pairs of equal adjacent sides. **OR** (a) In the following parallelogram HOPE find the angle measures of x, y and z. Also state the properties used to find them.  (b) Find the number of sides of a regular polygon whose each exterior angle has a measure of 45^0.	**5**
35	Draw a pie chart to show the numbers of votes received in the election of class monitor. **Names** | **Mona** | **Payal** | **Prashant** | **Sona** | **Rajen** | **Meera** **No. of votes** | **6** | **10** | **5** | **20** | **15** | **4**	**5**
	SECTION E	
S.No	**Case study questions are compulsory.**	**Marks**
36	During mathematics lab activity each student were given 4 straws of lengths 10cm, 8cm, 10cm and 8cm to make different types of quadrilaterals. (i) How many quadrilaterals can be formed using these straws. (ii) Name the types of quadrilaterals so formed and write one property for each. **OR** Find the area and perimeter of one of the quadrilaterals formed. (iii) What is the sum of interior angles of the quadrilateral?	**1** **2** **1**

37	A company packages it's milk powder in cylindrical containers whose base has a diameter of 14cm and height of 18cm. Company places a label 1.5cm from the top and the bottom around the curved surface is of the container as shown below.  (i) Find the radius of the container. (ii) Find the area of the label. **OR** Find the lateral surface area of the cylinder including label. (iii) Write the formula to find the total surface area of the container.	**1** **2** **1**
38	Linear equation in one variable is an equation with one variable of order 1. It is of the form **a x + b = c,** where a, b and c are real numbers and x is the variable. A solution to the given system of linear equation is a set of values for the variable which makes all equation true. (i) Find the solution of linear equation 2x + 5 = 15. (ii) Reduce and solve the following linear equation. $\left(\frac{\mathbf{x-5}}{\mathbf{3}}\right) = \left(\frac{\mathbf{x-3}}{\mathbf{5}}\right)$ **OR** Simplify and solve **3(t – 3) = 5 (2t +1).** **(**iii) Check whether x = $\frac{5}{2}$ is the solution of the linear equation 6x - 5 = 10**.**	**1** **2** **1**

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