



**SINDHI HIGH SCHOOL, BENGALURU**  
**ANNUAL EXAMINATION [2022-23]**  
**SUBJECT: MATHEMATICS**

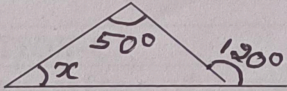
**Class: VII**  
**Date: 30.03.2023**  
**No of Sides: 5**

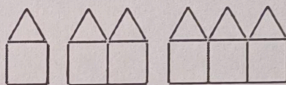

**Max Marks: 80**  
**Reading Time: 8:00 to 8:15 am**  
**Writing Time: 8:15 to 10:45 am**


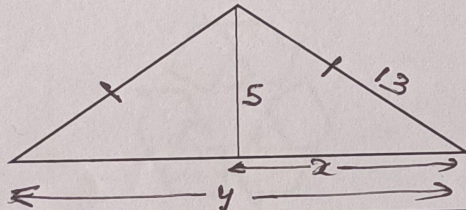
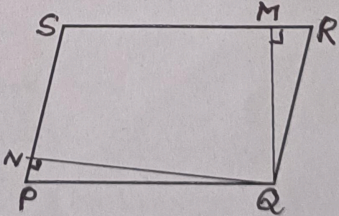
**GENERAL INSTRUCTIONS:**

- This Question Paper has 5 Sections A-E.
- Section A has 20 MCQs carrying 1 mark each
- Section B has 5 questions carrying 02 marks each.
- Section C has 6 questions carrying 03 marks each.
- Section D has 4 questions carrying 05 marks each.
- Section E has 3 case based integrated units of assessment (04 marks each with sub-parts of the values of 1, 1 and 2 marks each.

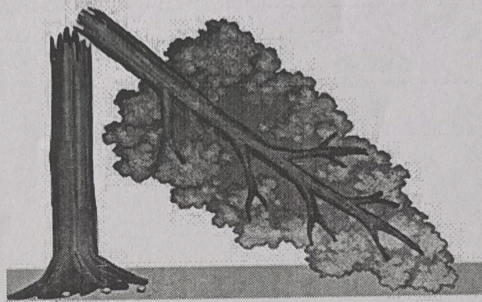
SECTION- A		
Section- A consists of 20 questions of 1 mark each.		
1	The expression $2 - x - x^2$ is a a) monomial      b) binomial      c) trinomial      d) equation	1
2	A triangle whose angles measure $40^\circ$ , $40^\circ$ , $100^\circ$ is a) obtuse angled      b) scalene      c) equilateral      d) right angled	1
3	The decimal number 62.5 as a percentage is a) 6250%      b) 0.625%      c) 6.25%      d) 62.5%	1
4	The area of a square hall is 900 sq m and its perimeter is 120 m . What is the amount spent in tiling it if the cost of tiling is Rs 70 per sq m a) Rs 8400      b) Rs 63000      c) Rs 210      d) Rs 840	1
5	In $3^2$ the base is a) 2      b) 3      c) 9      d) 8	1
6	The order of rotation of a line segment is a) 4      b) 3      c) 1      d) 2	1
7	Two times the predecessor of a number is 10 . The number is a) 5      b) 6      c) 9      d) 3	1
8	Which of the given measurements is the sides of a right angled triangle a) 6 , 8 , 9      b) 5 , 12 , 18      c) 1 , 1 , 1      d) 3 , 4 , 5	1
9	Simplify $2^2 \times 3^2$ a) $6^2$ b) $5^2$ c) $6^4$ d) $6^0$	1

10	Number of lines of symmetry of a regular hexagon is a)4    b)5    c)6    d)0	1
11	10 sq.cm = a) 1000 sq.mm                          b) 1 sq.mm                                  c) 10 sq.mm  d) 100 sq.mm	1
12	Geeta scored 75 marks this year as compared to 60 marks last year. What is the percentage increase in her marks a) 25%    b) 2.5%    c) 250%    d)50%	1
13	The sum of $x^3 - y^3$ and $y^3 - x^3$ is a) $2x^3 - y^3$ b) 0    c) $x^3 - 2y^3$ d) $x^6 - y^6$	1
14	If two equal angles of an isosceles triangle measure $35^\circ$ each, then the third angle is a) $110^\circ$ b) $130^\circ$ c) $145^\circ$ d) $45^\circ$	1
15	Area of a circular region having radius r is a) $\pi r^2$ b) $2\pi r$ c) $\pi r$ d) $\pi(\frac{r}{2})^2$	1
16	6% of what is 300 a) 500    b) 5000    c)180    d)18	1
17	Other name we can give to the line symmetry of an isosceles triangle is a)median    b) angle    c) side    d) vertex	1
18	The measure of $\angle x$ in the given figure is  a) $60^\circ$ b) $70^\circ$ c) 130    d) 50	1
<p><b><u>Directions for question 19 and 20.</u></b></p> <p><b><u>In question 19 and 20, Statements of Assertion(A) is followed by Reason(R). Choose the correct option.</u></b></p>		
19	<p><b>Assertion</b> ∴ In <math>\triangle RST</math>, <math>RS = 5\text{cm}</math> <math>\angle SRT = 45^\circ</math>, <math>\angle RST = 45^\circ</math> Rajat constructed a unique triangle using the given information <b>Reason</b> : Rajat Constructed the triangle using SAS criterion a) Both Assertion and Reason are correct and Reason is the correct explanation of assertion. b) Both Assertion and Reason are correct , but Reason is the not the correct explanation of assertion.</p>	1

	c) Assertion is correct but Reason is incorrect. d) Assertion is incorrect but Reason is correct.	
20	<b>Assertion</b> : The angles of a triangle are in the ratio 2:3:4 The largest angle of the triangle is $80^\circ$ <b>Reason</b> : The sum of all the interior angles of a triangle is $180^\circ$ a) Both Assertion and Reason are correct and Reason is the correct explanation of assertion. b) Both Assertion and Reason are correct, but Reason is not the correct explanation of assertion. c) Assertion is correct but Reason is incorrect. d) Assertion is incorrect but Reason is correct.	1
<b>SECTION-B</b>		
<b>Section-B consists of 5 questions of 2 marks each.</b>		
21	a) Observe the match stick pattern and find the general expression for the nth term  <div style="text-align: center;">  </div> b) How many match sticks will be needed for the 8th pattern?	2
22	Find the perimeter of the given semicircle if its radius is 7cm 	2
23	The area of a triangle is 84 sq.cm. If its base measures 14 cm calculate its altitude	2
24	solve and find the value of x $3 + 2(x-7) = 9$	2
25	i) Mention the number of lines of symmetry for the following figures. a) an equilateral triangle      b) parallelogram c) Write 2 letters of the English alphabet that have reflectional symmetry about both horizontal and vertical axis	2
<b>SECTION-C</b>		
<b>Section-C consists of 6 questions of 3 marks each.</b>		
26	a) Write as a decimal number 34% b) $\frac{3}{4}$ written as a percentage c) 0.25 as a percentage.	3
27	A train has 1500 passengers. 62% of the passengers travel in AC coach, 21% in first class and the rest in second class. Calculate the number of passengers who travel in each class.	3
28	a) Which is greater $3^4$ or $4^3$ b) The speed of light is 300,000,000 metres per second. Express this in its standard form	3
29	a) After rotating $45^\circ$ about a centre, a figure looks exactly the same as its original position. At what other angles will this happen for the figure?	3

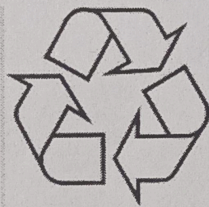
	(b) Does this figure have a rotational symmetry of order more than one? Explain with neat diagram.	
		
30	Simran's father is 41 years old. He is 5 years older than three times Simran's age. How old is Simran?	3
31	From the sum of $2y^2 + 3yz$ , $-y^2 - yz - z^2$ and $yz + 2z^2$ , subtract $3y^2 - z^2$	3
<b>SECTION-D</b>		
<b>Section-D consists of 4 questions of 5 marks each.</b>		
32	Find the length of x and y	5
		
33	a) Find the amount to be paid at the end of 4 years if principal is Rs 1200 at 10% p a. b) Amina buys a book for Rs 275 and sells it at a loss of 15%. At what price did she sell it for?	5
34	Construct a triangle ABC right angled at B, AC = 5cm, CB = 4 cm using ruler and compass only. Measure AB.	5
35	a) Express 360 as a product of prime numbers in exponential form b) simplify $\frac{3^{11}}{3^{2x} 3^6}$	5
<b>SECTION-E</b>		
<b>Section-E consists of 3 Case-Study questions.</b>		
36	Rahul has a plot of land which is in the shape of a parallelogram, PQRS. Two walls QM and QN are built. If SR = 14 m and QM = 6.4 m find i) Area of the plot PQRS (1mark) ii) QN if PS = 8m (1mark) iii) Perimeter of the plot. (2marks)	4
		
37	Suresh is having a garden near Delhi. In the garden there are different types of trees and flowers. One day due to heavy rain and storm one of the trees got broken as shown in the figure. The height of the unbroken part is 15m and the broken part of the tree has fallen 20 m away from the base of the tree. a) Find the height of the broken part of the tree. (2marks) b) what is the height of the tree before it broke. (1mark)	4

c) If the tip of the tree touches the ground at an angle of  $70^\circ$  find the angle between the unbroken part and broken part of the tree. (1 mark)



38

4



The above symbol is called the universal recycling symbol. It is rendered with a black outline and green in the interior. It is Internationally recognized for recycling activity. The logo is usually displayed with the arrow circulating. Answer the following questions based on the logo

- How many number of times this logo coincides to the original in one full rotation? (1 mark)
- What is the angle of rotation of the logo? (1 mark)
- What is the order of rotational symmetry of the given logo and how many lines of symmetry are there in it. (2 marks).

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