

**Annual Examination – (2024-25)**  
**CLASS -VIII**  
**Subject- Mathematics**  
**Set - A1**

**Time: 2 hrs30 min.**

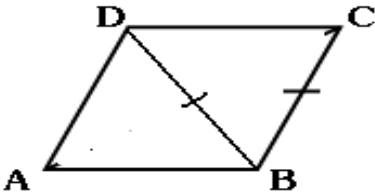
**Max. Marks : 60**

**General Instructions:**

1. This question paper consists of 16 questions .All questions are compulsory .
2. Question paper is divided in to 5 sections – Section A, B,C, D and E.
3. In section A – question number 1 has 12 multiple choice questions (MCQs) of 1 mark each.
4. In section B – question number 2 to 7 are of 2 marks each .
5. In section C – question number 8 to 10 are of 3 marks each .
6. In section D - question number 11 to 13 are of 5 marks each .
7. In section E – question number 14 to 16 are source based / case study questions carrying 4 marks each. Internal choice is provided in 2 marks question in each source based/ case question,
8. There is no overall choice. However , an internal choice has been provided in 1 question in section B, 2 questions in section C and 2 questions in section D .

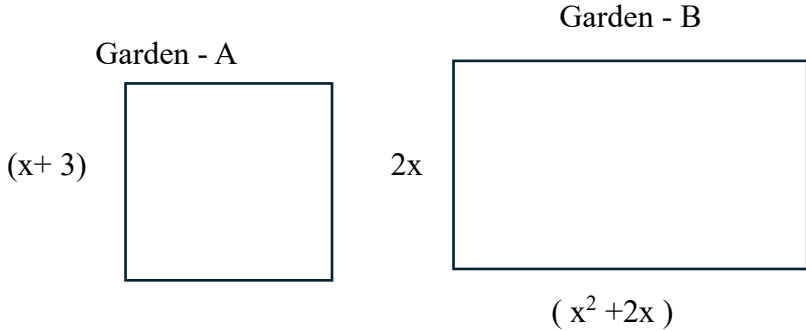
<b>SECTION – A</b>		<b>Marks</b>
	Question 1 consists of Multiple Choice Questions ( i – xii ) of 1 mark each.	
Q1.	The usual form of $2.03 \times 10^{-5}$ is	1
i.	a) 0.203      b) 0.00203      c) 203000      d) 0.0000203	
ii.	If x and y vary inversely , when x = 10 and y = 6 then find y if x = 4 .	1
	a) 15      b) 10      c) 20      d) 60	
iii.	The radius of a cylinder whose lateral surface area is $704 \text{ cm}^2$ and height 8 cm, is	1
	a) 4 cm      b)8 cm      c)14 cm      d) 6 cm	
iv.	Factors of $a^2+3a+ 2$ are:	1
	(a) $(a +2)(a-1)$ (b) $(a +2)(a+1)$	
	(c) $(a + 3)(1 -a)$ (d) $(a -2)(a-2)$	

v.	Value of $(2^0 - 31^0) + (2^0 + 31^0)$ is a) 1                      b) 0                      c) 2                      d) -2	1
vi.	The value of : $\frac{3}{8}xyz \times \left(-\frac{4}{7}yz\right) \times \left(-\frac{7}{11}xz\right)$ is  (a) $\frac{5}{22}x^2y^2z^3$ (b) $\frac{3}{22}x^2y^2z^3$ (c) $\frac{3}{22}x^3y^2z^3$ (d) $\frac{3}{22}x^3y^3z^3$	1
vii.	The smallest number by which 81 be multiplied to obtain a perfect cube is a) 3                      b) 11                      c) 7                      d) 9	1
viii.	How many natural numbers lie between $20^2$ and $21^2$ ? (a) 41                      (b) 400                      (c) 42                      (d) 40	1
ix.	If $\frac{x}{0.3} = 3.3$ , then $100x =$ _____  a) 9.9    b) 99    c) 0.99    d) 33.3	1
x.	Polygons that have no portions of their diagonals in their exteriors are called  (a) Squares    (b) triangles    (c) convex    (d) concave	1
xi.	A coin is tossed three times. The number of possible outcomes is (a) 3                      (b) 4                      (c) 6                      (d) 8	1
xii.	The rational number which have no reciprocal is  a) 1                      b) -1                      c) 0                      d) 2	1
<b>SECTION – B</b>		
2.	Simplify using the properties: $\frac{-2}{3} \times \frac{3}{5} - \frac{5}{2} \times \frac{3}{5}$	2
3.	Solve : $\frac{2x+3}{5} = \frac{4x+9}{11}$	2

4.	<p>In the fig. given below , diagonal BD of rhombus ABCD is equal to one of its sides BC find the measure of <math>\angle A</math> .</p> 	2
5.	Find cube root of 10648 by prime factorisation method.	2
6.	Marked price of a book is Rs300 .It is sold at a discount of 15%.Find the discount allowed on the book and the selling price.	2
7.	<p>Find m so that <math>\left(\frac{2}{5}\right)^3 \times \left(\frac{2}{5}\right)^{-6} = \left(\frac{2}{5}\right)^{2m-1}</math></p> <p style="text-align: center;">OR</p> <p>Simplify:</p> $\frac{3^{-4} \times 6^{-3} \times 25}{10^{-2} \times 16 \times 3^{-6}}$	2
SECTION – C		
8.	<p>Find the square root 15129 by long division method .</p> <p style="text-align: center;">OR</p> <p>Find the smallest square number that is divisible by each of the numbers 4, 9 and 10.</p>	3
9.	<p>Danya is painting the walls and ceiling of a cuboidal hall with length, breadth and height of 15 m, 10 m and 7 m respectively. From each can of paint 100 m<sup>2</sup> of the area is painted. How many cans of paint will she need to paint the room?</p> <p style="text-align: center;">OR</p> <p>In a village ,water is pouring in to a cylindrical reservoir at the rate of 60 litre per minute. If the radius and height of the given reservoir is 3m and 7m respectively, find the number of hours it will take to fill the reservoir?</p>	3
10.	A machinery plant costing Rs 8, 00,000 depreciates in value by 15% annually. Find its value after 3 years?	3

SECTION – D												
11.	<p>A 5 m 60 cm high vertical pole casts a shadow 3 m 20 cm long. Find at the same time</p> <p>(i) the length of the shadow cast by another pole 10 m 50 cm high,</p> <p>(ii) the height of a pole which casts a shadow 5 m long.</p> <p style="text-align: center;">OR</p> <p>(i) In a scout camp, there is food provision for 300 cadets for 42 days. If 50 more persons join the camp, for how many days will the provision last?</p> <p>(ii) A car takes 2 hours to reach a destination by traveling at a speed of 60 km/h. How long will it take when the car travels at the speed of 80 km/h?</p>	<p>3</p> <p>2</p> <p>3</p> <p>2</p>										
12.	<p>Factorise:</p> <p>a. <math>(l + m)^2 - (l - m)^2</math></p> <p>b. Factorise: <math>am^2 + bm^2 + bn^2 + an^2</math></p> <p style="text-align: center;">– OR</p> <p>a. Divide : <math>(5p^2 - 25p + 20)</math> by <math>(p - 1)</math></p> <p>b. Factorise: <math>100x^2 - 1</math></p>	<p>3</p> <p>2</p> <p>3</p> <p>2</p>										
13.	<p>Draw the graphs for the following table of values, with suitable scales on the axes. Distance travelled by car.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Time (in hours)</th> <th>6 am</th> <th>7 am</th> <th>8 am</th> <th>9 am</th> </tr> </thead> <tbody> <tr> <th>Distance (in km)</th> <td>40</td> <td>80</td> <td>120</td> <td>160</td> </tr> </tbody> </table> <p>(i) How much distance did the car cover during the period 7:30 am to 8 am?</p> <p>(ii) What was the time when the car had covered a distance of 100 km since its start?</p>	Time (in hours)	6 am	7 am	8 am	9 am	Distance (in km)	40	80	120	160	<p>3</p> <p>1</p> <p>1</p>
Time (in hours)	6 am	7 am	8 am	9 am								
Distance (in km)	40	80	120	160								

SECTION – E		
	Question 14 to 16 are case based questions .(Part i and ii are of 1 mark each and part iii is of 2 marks)	
14.	<p>CASE STUDY : The given pie chart shows the games played by 1800 students of a school. Each student plays only one game. Also, the school management allocated a total budget of 3,60,000 for different sports in the same ratio as per pie chart.</p> <div style="text-align: center;"> </div> <p>T – Tennis  C - Cricket      H – Hockey  F – Football      B – Badminton</p> <p>Based on the above information ,answer the following questions:</p> <p>i . Find the number of students playing badminton.</p> <p>ii. What is the budget allocated for the students playing football?</p> <p>iii. (a) Find the total number of students playing cricket and football</p> <p style="text-align: center;">OR</p> <p>iii. (b) Find the difference in budget allocated for the students of Tennis and Hockey.</p>	<p>1</p> <p>1</p> <p>2</p>
15.	<p>Case Study:</p> <p>Rahul went to the market and purchased a beautiful box for jewellery. The external dimensions of a closed box are 80 cm by 56 cm by 40 cm. The wood is 2.5 cm thick all around.</p> <div style="text-align: center;"> </div>	

	<p>On basis of this information given in passage answer following questions.</p> <p>i. Find the external volume of box.</p> <p>ii. Find the internal length, breadth and height of the box.</p> <p>iii.</p> <p>(a) The volume of the wood used in making the box.</p> <p style="text-align: center;">OR</p> <p>iii.</p> <p>(b) Find the length of ribbon required to cover all its edges.</p>	<p>1</p> <p>1</p> <p>2</p>
<p>16.</p>	<p>Case study</p> <p>In a small town, there is a group of students from Creative Minds school. The Mathematics teacher, Mr. Sharma, has given students a challenge to find the total area of two gardens A and B. To complete this challenge, the students need to apply their knowledge of algebraic expressions and their skills of addition, subtraction, multiplication, and simplification. The sides of each garden is represented as follows: Garden A is a squared garden with side <math>(x+3)</math> meters and garden B has length and breadth <math>2x</math> and <math>(x^2+2x)</math> metres respectively. Based on the above information, answer the following questions:</p> <div style="text-align: center;">  <p style="margin-left: 100px;">Garden - A</p> <p style="margin-left: 200px;">Garden - B</p> <p style="margin-left: 50px;"><math>(x+3)</math></p> <p style="margin-left: 150px;"><math>2x</math></p> <p style="margin-left: 250px;"><math>(x^2+2x)</math></p> </div> <p>(i) Find the area of the garden A.</p> <p>(ii) Find the area of the garden B.</p> <p>(iii)</p> <p>(a) Find the product of the area of Garden A and Garden B.</p> <p style="text-align: center;">OR</p> <p>(iii)</p> <p>(b) Find the total length of the rope required for fencing both the gardens.</p>	<p>1</p> <p>1</p> <p>2</p>