

 **MATH LOVE INSTITUTE****Education as a Service (EaaS)****Sample Question Paper - SET 1** +91-7869553517 |  [www.mathlove.in](http://www.mathlove.in)

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<b>Class</b>	XII	<b>Subject</b>	Mathematics (041)
<b>Chapter</b>	9 - Differential Equations	<b>Time Allowed</b>	12 Minutes
<b>Maximum Marks</b>	6	<b>Date</b>	_____

**GENERAL INSTRUCTIONS:**

1. This question paper contains **3 questions** from Chapter 9 - Differential Equations.
2. All questions are compulsory.
3. Question 1 carries **1 mark**.
4. Question 2 carries **2 marks**.
5. Question 3 carries **3 marks**.
6. Show all steps of your calculations clearly.
7. Use proper mathematical notation and terminology.

**HOW TO SUBMIT:**

1. Solve this question paper in your notebook or on loose sheets.
2. Clearly write your **Name, CBSE Roll Number, School Name, Place, and Date** on the first page.
3. Upload your solved paper at our website: **[www.mathlove.in](http://www.mathlove.in)**
4. Check your **detailed report card on the website** after evaluation.

5. For any queries or assistance, WhatsApp us at +91-7869553517

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**SECTION A - 1 MARK QUESTION (1 × 1 = 1 Mark)**

**Q1.** The sum of the order and degree of the differential equation

$$d/dx[(dy/dx)^3] = 5$$

is:

(A) 4 (B) 5 (C) 6 (D) 3 [1]

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**SECTION B - 2 MARKS QUESTION (1 × 2 = 2 Marks)**

**Q2.** Find the integrating factor of the differential equation:

$$(1 - x^2)dy/dx - xy = 1$$
 [2]

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**SECTION C - 3 MARKS QUESTION (1 × 3 = 3 Marks)**

**Q3.** Find the particular solution of the differential equation:

$$dy/dx - 2xy = 3x^2e^{x^2}$$

given that  $y(0) = 5$ . [3]

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Indore, Madhya Pradesh

+91-7869553517 | www.mathlove.in | info@mathlove.in

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