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Sample Question Paper - SET 1

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Class	XII	Subject	Mathematics (041)
Chapter	1 - Relations and Functions	Time Allowed	12 Minutes
Maximum Marks	6	Date	_____

GENERAL INSTRUCTIONS:

1. This question paper contains **4 questions** from Chapter 1 - Relations and Functions.
2. All questions are compulsory.
3. Questions 1-3 carry **1 mark each**.
4. Question 4 carries **3 marks**.
5. Show all steps of your calculations clearly.
6. 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**
4. Check your **detailed report card on the website** after evaluation.

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

SECTION A - 1 MARK QUESTIONS (3 × 1 = 3 Marks)

Q1. Let R be a relation on the set N of natural numbers defined by R = {(a, b) : a = b - 2, b > 6}. Choose the correct answer:

(A) (2, 4) ∈ R (B) (3, 8) ∈ R (C) (6, 8) ∈ R (D) (8, 7) ∈ R **[1]**

Q2. If f : {1, 3, 4} → {1, 2, 5} and g : {1, 2, 5} → {1, 3} are given by f = {(1, 2), (3, 5), (4, 1)} and g = {(1, 3), (2, 3), (5, 1)}, then write gof. **[1]**

Q3. Let f : R → R be defined as f(x) = 3x. Choose the correct answer:

(A) f is one-one onto

(B) f is many-one onto

(C) f is one-one but not onto

(D) f is neither one-one nor onto **[1]**

SECTION B - 3 MARKS QUESTION (1 × 3 = 3 Marks)

Q4. Let A = R - {3} and B = R - {1}. Consider the function f : A → B defined by

f(x) = (x - 2)/(x - 3)

Show that f is one-one and onto. Hence, find f^{-1}. **[3]**