INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS

CH-1. Relations and Functions-Practice Questions

Name: _____ Date:03-05-24_____ Class: XII Sec: __

1.	F : N ⟶ N is given by f(x) =2x+3 Show that f(x) is one one and onto
2.	f : Q ⟶ Q is given by f(x) =2x +3, Show that f(x) is one –one and onto
3.	Show that f: N to N given by $f(x) = \begin{cases} \frac{x+1}{2}, & if\ x\ is\ odd \\ \frac{x}{2}, & if\ x\ is\ even \end{cases}$ is not bijective
4.	Show that f: N to N given by $f(x) = \begin{cases} x+1, & if\ x\ is\ odd \\ x-1, & if\ x\ is\ even \end{cases}$ is both one –one and onto
5.	Show that f: W to W given by $f(x) = \begin{cases} x+1, & if\ x\ is\ odd \\ x-1, & if\ x\ is\ even \end{cases}$ is both one –one and onto
6.	Show that a function f : R to R is given by f(x)= ax + b (a, b € R a≠ 0) is bijective
7.	Show that a function f : R to R is given by f(x)= $2x^3 - 7$ x ϵ R is a bijective
8.	Let A and B are any two sets Show that f: A X B ⟶ B X A such that f(a, b) =(b, a) is a bijective
9.	Show that the relation R on the set N X N defined by (a, b) R (c, d) if and only if ad(b +c) = bc(a +d) is an equivalence relation
10.	Show that the relation R on the set N X N defined by (a, b) R (c, d) if and only if a +d = b +c is an equivalence relation
11.	Show that the relation R on the set N X N defined by (a, b) R (c, d) if and only if ad = bc is an equivalence relation
12.	f: A to B, A =R- {3} and B =R- {1} is defined by f(x)= $\frac{x-2}{x-3}$, Show that f(x0 is one –one and onto
13.	Show that a function f : R to R is given by f(x)= |x| is neither one-one nor onto
14.	Show that a function f : R to R is given by f(x)= $2x^3 - 7$ x ϵ R is a bijective
