Worksheet: Relations and Functions

Gujarat State Board · Class 12 · Mathematics · 5 questions · 17 marks

Name: _____ Date: _____ Score: _____ / 17

Q1. Check whether R = {(1,1),(2,2),(3,3),(4,4),(1,2),(2,1)} on A = {1,2,3,4} is an equivalence relation. *[3 marks]*

Q2. Prove f: R -> R, f(x) = 4x + 7 is invertible and find f inverse. *[3 marks]*

Q3. If f(x) = x^2 and g(x) = 2x+1, find (g o f)(x) and (f o g)(x). Are they equal? *[3 marks]*

Q4. For a * b = a + b + ab on R, check commutativity and associativity and find the identity. *[4 marks]*

Q5. Show f: R-{-2} -> R-{4}, f(x) = (4x+3)/(x+2) is bijective. *[4 marks]*