Worksheet: Inverse Trigonometric Functions

Maharashtra State Board · Class 12 · Mathematics · 8 questions · 25 marks

Name: _____ Date: _____ Score: _____ / 25

Q1. Find the principal value of sin^{-1}(1). *[1 mark]*

Q2. Find the principal value of cos^{-1}(-1). *[2 marks]*

Q3. Find the value of cos^{-1}(cos(4pi/3)). *[2 marks]*

Q4. Simplify tan^{-1}(x/sqrt(a^2-x^2)) for |x|<a, using the substitution x=a sin¸ *[4 marks]*

Q5. Find the value of tan^{-1}(sqrt3) - sec^{-1}(-2). *[3 marks]*

Q6. Prove that 2 tan^{-1}(1/2) = sin^{-1}(4/5). *[5 marks]*

Q7. Solve tan^{-1}(2x) + tan^{-1}(3x) = pi/4 for x, and verify the root is not extraneous. *[5 marks]*

Q8. Find the value of sin^{-1}(sin(5pi/6)). *[3 marks]*