

Worksheet: Inverse Trigonometric Functions

IGCSE · 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 $\cos^{-1}(\cos(4\pi/3))$. [2 marks]

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

Q5. Find the value of $\tan^{-1}(\sqrt{3}) - \sec^{-1}(-2)$. [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 $\sin^{-1}(\sin(5\pi/6))$. [3 marks]
