

Worksheet: Trigonometric Functions

ISC · Class 11 · Mathematics · 10 questions · 40 marks

Name: _____

Date: _____

Score: _____ / 40

Q1. Convert $5\frac{\pi}{6}$ radians into degree measure. [2 marks]

Q2. Find the length of an arc that subtends an angle of 60° at the centre of a circle of radius 21 cm (use $\pi = \frac{22}{7}$). [3 marks]

Q3. $\sin x = \frac{3}{5}$, x lies in the second quadrant. Find $\cos x$ and $\tan x$. [4 marks]

Q4. Evaluate $\cos(1035^\circ)$. [3 marks]

Q5. Find the value of $\cos 75^\circ$. [4 marks]

Q6. Prove that $\frac{\sin(x+y)}{\sin(x-y)} = \frac{(\tan x + \tan y)}{(\tan x - \tan y)}$, assuming none of the denominators vanish. [5 marks]

Q7. If $\tan x = 3/4$ and x lies in the first quadrant, find $\sin 2x$, $\cos 2x$, and $\tan 2x$. [5 marks]

Q8. If $\sin x = 1/3$, find $\sin 3x$. [5 marks]

Q9. Prove that $(\sin 5x + \sin 3x)/(\cos 5x + \cos 3x) = \tan 4x$. [5 marks]

Q10. Express $2 \cos 5x \sin 3x$ as a sum, then evaluate it at $x = \pi/2$. [4 marks]
