

INTERNATIONAL INDIAN SCHOOL BURAI DAH

WORK SHEET-CLASS-11-2026-27

Ch:3-Trigonometric Functions

MCQ:

1-The value of $\cos 5\pi$ is

- (a) 0 (b) 1 (c) -1 (d)) None of these

2-If $3\tan(x - 15) = \tan(x + 15)$ then the value of x is

- (a) 30° (b) 45° (c) 60° (d)) 90°

3-The value of $\tan 20^\circ \times \tan 40^\circ \times \tan 80^\circ$ is

- (a) $\tan 30^\circ$ (b) $\tan 60^\circ$ (c) $2 \tan 30^\circ$ (d) $2 \tan 60^\circ$

4-The value of $\cos 1^\circ \cos 2^\circ \cos 3^\circ \dots \dots \dots \cos 179^\circ$ is

- (a) $\frac{1}{\sqrt{2}}$ (b) 0 (c) 1 (d) -1

5-If A lies in the second quadrant and $3\tan A + 4 = 0$, then the value of $(2\cot A - 5\cos A + \sin A)$ is equal to

- (a) $-\frac{53}{10}$ (b) $\frac{23}{10}$ (c) $\frac{37}{10}$ (d) $\frac{7}{10}$

6-If $\sin \theta + \operatorname{cosec} \theta = 2$, then $\sin^2 \theta + \operatorname{cosec}^2 \theta$ is equal to:

- (a) 1 (b) 4 (c) 2 (d) None of these

7-If $f(x) = \cos^2 x + \sec^2 x$ then

- (a) $f(x) < 1$ (b) $f(x) = 1$ (c) $2 < f(x) < 1$ (d) $f(x) \geq 2$

8-The Value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$

- (a) $\frac{\sqrt{3}}{2}$ (b) 2 (c) 1 (d) $\sqrt{3}$

9-The value of $\sin(45^\circ + \theta) - \cos(45^\circ - \theta)$

- (a) $2\cos \theta$ (b) $2\sin \theta$ (c) 1 (d) 0

10-The value of $\sin \frac{\pi}{10} \sin \frac{13\pi}{10}$ is

- (a) $\frac{1}{2}$ (b) $-\frac{1}{2}$ (c) $-\frac{1}{4}$ (d) 1

Subjective Type Question :

1-Write radian measure of $5^\circ 37' 30''$

2-what is the value of $\sin(-1125)$?

3-Write the value of $\tan\left(\frac{\pi}{8}\right)$

4-Write the value of $2\sin 75^\circ \sin 15^\circ$

5-If $\sin A = \frac{3}{5}$ and $\frac{\pi}{2} < A < \pi$. Find $\cos A, \tan 2A$.

6- Prove that $\cos 510^\circ \cos 330^\circ + \sin 390^\circ \cos 120^\circ = -1$

7-If $A+B = \frac{\pi}{4}$ then prove that $(1 + \tan A)(1 + \tan B) = 2$

8-If $\tan A = \frac{a}{a+1}$ and $\tan B = \frac{1}{2a+1}$ then find the value of $A+B$

9-Prove that $\tan 13x = \tan 4x + \tan 9x + \tan 4x \cdot \tan 9x \cdot \tan 13x$

10-Prove that : $\cos A \cos 2A \cos 4A \cos 8A = \frac{\sin 16A}{16 \sin A}$

11-Prove that $\frac{\tan 5\theta + \tan 3\theta}{\tan 5\theta - \tan 3\theta} = 4 \cos 2\theta \cos 4\theta$

12-Prove that : $\sqrt{2 + \sqrt{2 + 2 \cos 4\theta}} = 2 \cos \theta$

13-If $\tan x = \frac{3}{2}$, $0 < x < 3\frac{\pi}{2}$, Find the value of $\sin \frac{x}{2}$, $\cos \frac{x}{2}$, $\tan \frac{x}{2}$
