



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



SOLUTIONS OF WORKSHEET-26
SUBJECT – MATHEMATICS
Final - Term

Chapter: Trigonometry

Class: XI

Topic: Miscellaneous

Date: 16.01.2021

Choose the correct option **(1 x 15=15)**

1. If $\sin \theta = \frac{3}{5}$, then the value of $\cos 2\theta = ?$

- a) $\frac{7}{15}$
- b) $\frac{8}{25}$
- c) $\frac{2}{5}$
- d) $\frac{7}{25}$

2. $\sin 36^\circ = ?$

- a) $\frac{\sqrt{5}-1}{4}$; b) $\frac{\sqrt{5}+1}{4}$; c) $\frac{1}{4}\sqrt{10-2\sqrt{5}}$; d) $\frac{1}{4}\sqrt{10+2\sqrt{5}}$

3. $\cos 72^\circ = ?$

- a) $\frac{\sqrt{5}-1}{4}$; b) $\frac{\sqrt{5}+1}{4}$; c) $\frac{1}{4}\sqrt{10-2\sqrt{5}}$; d) $\frac{1}{4}\sqrt{10+2\sqrt{5}}$

4. Given $2 \cos \theta = x + \frac{1}{x}$. Then the value of $\cos 2\theta = ?$

- a) $x^2 + \frac{1}{x^2}$
- b) $\frac{1}{2}(x^2 + \frac{1}{x^2})$
- c) $x^3 + \frac{1}{x^3}$
- d) $\frac{1}{2}(x^3 + \frac{1}{x^3})$

5. If $\sin \theta = \frac{3}{5}$, then the value of $\sin 2\theta = ?$

- a) $\frac{24}{15}$
- b) $\frac{24}{25}$**
- c) $\frac{2}{5}$
- d) $\frac{17}{25}$

6. $2 \sin 25^\circ \cos 15^\circ = ?$

- a) $\sin 40^\circ + \sin 10^\circ$** ; b) $\cos 40^\circ + \cos 10^\circ$; c) $\cos 40^\circ - \cos 10^\circ$;
- d) $\sin 40^\circ - \sin 10^\circ$

7. $\sqrt{3} \sin 10^\circ = ?$

- a) $\sin 50^\circ + \sin 70^\circ$; b) $\cos 40^\circ + \cos 60^\circ$; **c) $\cos 50^\circ - \cos 70^\circ$** ;
- d) $\sin 40^\circ - \sin 60^\circ$

8. $\frac{\cos 2^\circ - \sin 2^\circ}{\cos 2^\circ + \sin 2^\circ} = ?$

- a) $\sin 47^\circ$
- b) $\cos 43^\circ$
- c) $\tan 43^\circ$**
- d) $\cot 43^\circ$

9. The general solution of $\cos \theta = 0$ is ?

- a) $\theta = n\pi$
- b) $\theta = (2n + 1) \frac{\pi}{2}$**
- c) $\theta = 2n\pi$
- d) $\theta = (2n - 1) \frac{\pi}{2}$

10. The general solution of $\sin \theta = 1$ is ?

- a) $\theta = n\pi$
- b) $\theta = (4n + 1) \frac{\pi}{4}$
- c) $\theta = 2n\pi$
- d) $\theta = (4n + 1) \frac{\pi}{2}$**

11. If $\tan \theta = 1$ and $0^\circ \leq \theta \leq 360^\circ$, then $\theta = ?$

- a) 45° & 225°
- b) 45° & 135°
- c) 45° & 315°
- d) 45° & 210°

12. The general solution of $\cot \theta = \cot \alpha$ ($\alpha \neq 0$) is ?

- a) $\theta = n\pi + \alpha$
- b) $\theta = n\pi + \frac{\alpha}{2}$
- c) $\theta = n\pi - \alpha$
- d) $\theta = \alpha$

13. The general solution of $\operatorname{cosec} \theta = \operatorname{cosec} \alpha$ ($\alpha \neq 0$) is ?

- a) $\theta = n\pi + \alpha$
- b) $\theta = n\pi + \frac{\alpha}{2}$
- c) $\theta = n\pi\alpha$
- d) None of these.

14. The general solution of $\sin \theta = \cos \theta$ is ?

- a) $\theta = (2n + 1)\frac{\pi}{4}$
- b) $\theta = n\pi + \frac{\pi}{4}$
- c) $\theta = \frac{\pi}{4}$
- d) None of these.

15. The general solution of the equation $\tan 3x = 1$ is ?

- a) $n\pi + \frac{\pi}{12}$
- b) $n\pi + \frac{\pi}{4}$
- c) $\frac{n\pi}{3} + \frac{\pi}{4}$
- d) $\frac{n\pi}{3} + \frac{\pi}{12}$

Prepared by :-

Mr. Sukumar Mandal (SkM)