

## CBSE Mathematics Sample Papers XI

### Trigonometric Equations

#### Very Short Answer Type Questions

- The smallest value of  $\theta$  satisfying the equation  $\sqrt{3} (\cot \theta + \tan \theta) = 4$  is  
(A)  $\frac{2\pi}{3}$                       (B)  $\frac{\pi}{6}$                       (C)  $\frac{\pi}{3}$                       (D)  $\frac{\pi}{12}$
- The number of solutions in  $[0, \frac{\pi}{2}]$  of the equation  $\cos 3x \tan 5x = \sin 7x$  is  
(A) 6                      (B) 5                      (C) 7                      (D) none of these
- The equation  $3 \cos x + 4 \sin x = 6$  has \_\_\_\_\_ solutions  
(A) one                      (B) Infinite                      (C) Finite                      (D) No

Write the general solution of the following equations

- $\sin^2 7\theta = 0$
- $\cos \frac{3\theta}{2} = \frac{1}{2}$

#### Short Answer Type Questions

Write the general solution of the following equations

- $2 \cos^2 \theta + 3 \sin \theta = 3$
- $2 \tan \theta - \cot \theta = -1$
- $\cot^2 \theta + \frac{3}{\sin \theta} + 3 = 0$
- $\tan \theta + \tan 2\theta + \tan \theta \tan 2\theta = 1$
- $4 \sin \theta \sin 2\theta \sin 4\theta = \sin 3\theta$