CLASS X – MATHEMATICS – CHAPTER 08
INTRODUCTION TO TRIGONOMETRY

Name: Date:

Q01. [aSec^{2}A – aTan^{2}A] is equal to

(a) a (b) 1 (c) 2 (d) 3

Q02. $\frac{1+\text{Tan}^2}{1+\text{Cot}^2}$ is equal to

(a) Sec^{2}A (b) Tan^{2}A (c) Cot^{2}A (d) Tan A

Q03. If Sin2A = 2Sin A than A is equal to

(a) 0 (b) 2 (c) 1 (d) 3

Q04. Value of Cot^{2}θ – $\frac{1}{\text{Sin}^2}$ is

(a) 2 (b) –2 (c) 1 (d) –1

Q05. The value of Sec 90°is

(a) 0 (b) $\frac{\sqrt{3}}{2}$ (c) Not define (d) 2

Q06. Value of [2Sin^2 30° –3Cos^2 45° + Tan^2 60°] is

(a) 5 (b) 3 (c) 1 (d) 2

Q07. If TanA = TanB, then (A + B) is

(a) 90° (b) 30° (c) 45° (d) 180°

Q08. If Cot θ = $\frac{7}{8}$ then value of Tan^{2}θ is

(a) $\frac{64}{49}$ (b) $\frac{49}{64}$ (c) $\frac{77}{8}$ (d) $\frac{8}{7}$

Q09. The value of $\frac{1-\text{Tan}^2 45°}{1+\text{Tan}^2 45°}$ is

(a) N. D (b) 2 (c) 0 (d) 3

Q10. If Sinθ = $\frac{3}{5}$, then value of (Tanθ + Secθ)^2 is

(a) 1 (b) 2 (c) 3 (d) 4

Q11. The value of (Sin60°.Cos30° + Sin30°.Cos60°)

(a) 1 (b) 2 (c) 4 (d) 3

Q12. If Tan A = $\frac{4}{3}$ than SinA is equal to

(a) $\frac{4}{3}$ (b) $\frac{4}{5}$ (c) $\frac{5}{4}$ (d) $\frac{1}{4}$

Q13. If Sin(A– B) = $\frac{1}{2}$ and Cos(A+ B) = $\frac{1}{2}$ value of A and B is

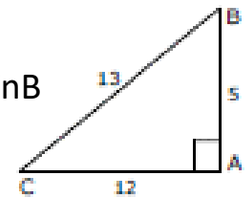
(a) 45° ,15° (b) 60° ,30° (c) 15° ,30° (d) 30° ,60°

Q14. Value of θ when 2Sin2θ = $\sqrt{3}$ is

(a) 0° (b) 45° (c) 30° (d) 90°

Q15. Value of $Cos^2\theta$ (1 + $Tan^2\theta$) is equal to

(a) 2 (b) –1 (c) 1 (d) 3



01. Find value of SinB, CosC, CotB, TanB, CosecC, SecB, CosB, SinC, TanC, SecC, SinB

02. If Tan A = 1 and Tan B = $\sqrt{3}$, Evaluate CosA.CosB – SinA.SinB

03. Is it true Sec A = $\frac{12}{5}$ for some value of angle A

04. Prove $(Cosec\theta - Cot\theta)^2 = \frac{1 - Cos\theta}{1 + Cos\theta}$

05. If Secα = $\frac{5}{4}$, evaluate $\frac{1 - Tan\alpha}{1 + Tan\alpha}$

06. Prove $(1 + Tan^2\theta)(1 + Sin\theta)(1 - Sin\theta) = 1$

07. Prove $(Sec^4A - Sec^2A) = (Tan^4A + Tan^2A)$

08. Prove $(SinA + CosecA)^2 + (Cos\ A + Sec\ A)^2 = 7 + Tan^2A + Cot^2A$

09. Prove $[Sin^4A + Cos^4A] = [1 - 2Sin^2A.Cos^2A]$

10. If x = a Sin θ, y = b Tan θ prove $\frac{a^2}{x^2} - \frac{b^2}{y^2} = 1$

11. Prove $\sqrt{Sec^2\theta + Cosec^2\theta} = (Tan\theta + Cot\theta)$

12. If Sinθ + Cosθ = $\sqrt{2}$Sin(90 – θ) determine Cotθ.

13. Prove $Cos^2\theta + \frac{1}{1 + Cot^2\theta} = 1$

14. If 3Tanθ = 4, Find the value of $\frac{4Cos\theta - Sin\theta}{2Cos\theta + Sin\theta}$

15. Find the value of $\frac{Cos45°}{Sec30 + Cosec30°}$

16. Prove that $\frac{Sin\theta - Cos\theta + 1}{Sin\theta + Cos\theta - 1} = \frac{1}{Sec\theta - Tan\theta}$

17. Verify that Sin60° = $\frac{2Tan30°}{1 + Tan^2 30°} = \frac{\sqrt{3}}{2}$

18. If Secθ = x + $\frac{1}{4x}$, prove that (Secθ + Tanθ) = 2x or $\frac{1}{2x}$

19. Prove $\frac{Tan\theta}{1 - Cot\theta} + \frac{Cot\theta}{1 - Tan\theta} = 1 + Sec\theta.Cosec\theta$

20. If [Sin(A + B) = 1], [Cos (A – B) = $\frac{\sqrt{3}}{2}$. Find the value of A and B.