

Chapter 8 - INTRODUCTION TO TRIGONOMETRY

S.No.	Questions
Q1	If $\tan \theta = \frac{3}{4}$ then the value of $\sin \theta$ is (a) $\frac{3}{5}$ (b) $\frac{4}{4}$ (c) $\frac{3}{4}$ (d) $\frac{-3}{5}$
Q2	If $\sin (A + B) = \frac{\sqrt{3}}{2}$ and $\tan (A - B) = 1$. What are the values of A and B? (a) 37, 54 (b) 35.7, 40.7 (c) 50, 10 (d) 52.5, 7.5
Q3	If $\tan \alpha = \sqrt{3}$ and $\operatorname{cosec} \beta = 1$, then the value of $\alpha - \beta$? (a) -30° (b) 30° (c) 90° (d) 60°
Q4	In triangle ABC, right angled at C, then the value of $\operatorname{cosec} (A + B)$ is (a) 2 (b) 0 (c) 1 (d) ∞
Q5	If $\sin \theta - \cos \theta = 0$ then the value of $\sec \theta$ (a) $\frac{1}{2}$ (b) $\sqrt{2}$ (c) 1 (d) $\frac{1}{\sqrt{2}}$
Q6	What is the value of $\sin 30^\circ + \cos 60^\circ$? (a) $\frac{1}{2}$ (b) 0 (c) 1 (d) $\frac{1}{\sqrt{2}}$
Q7	If $(1 + \cos A)(1 - \cos A) = 3/4$, find the value of $\sec A$. (a) $\pm \frac{1}{2}$ (b) $\sqrt{2}$ (c) ± 1 (d) ± 2
Q8	If $x \tan 60^\circ \cos 60^\circ = \sin 60^\circ \cot 60^\circ$, then $x =$ (a) $\cos 30^\circ$ (b) $\tan 30^\circ$ (c) $\sin 30^\circ$ (d) $\cot 30^\circ$
Q9	If $\sin \theta + \cos \theta = \sqrt{2}$, then $\tan \theta + \cot \theta =$ (a) 1 (b) 2 (c) 3 (d) 4
Q10	If $2\sin^2 \beta - \cos^2 \beta = 2$, then β is (a) 0° (b) 90° (c) 45° (d) 30°

Q11	If the angles of $\triangle ABC$ are in ratio 1:1:2, respectively (the largest angle being angle C), then the value of $\frac{\sec A}{\operatorname{cosec} B} - \frac{\tan A}{\cot B}$ is (a) 0 (b) $\frac{1}{2}$ (c) 1 (d) $\frac{\sqrt{3}}{2}$
Q12	If $4 \tan \beta = 3$, then $\frac{4 \sin \beta - 3 \cos \beta}{4 \sin \beta + 3 \cos \beta} =$ (a) 0 (b) $\frac{1}{3}$ (c) $\frac{2}{3}$ (d) $\frac{3}{4}$
Q13	The value $\frac{5 \cos^2 60^\circ + 4 \sec^2 30^\circ - \tan^2 45^\circ}{\sin^2 30^\circ + \cos^2 30^\circ}$ (a) $\frac{32}{35}$ (b) $\frac{14}{55}$ (c) $\frac{67}{12}$ (d) $\frac{19}{33}$
Q14	If $\sin \theta = x$ and $\sec \theta = y$ then value of $\cot \theta$ is given by (a) $\frac{x}{y}$ (b) $\frac{1}{xy^2}$ (c) $\frac{1}{x^2}$ (d) $\frac{1}{xy}$
Q15	If $\cos x = \frac{2}{3}$. Find the value of $\tan x$ (a) $\frac{\sqrt{5}}{2}$ (b) $\frac{5}{2}$ (c) $\frac{5}{\sqrt{2}}$ (d) $\sqrt{\frac{5}{2}}$
Q16	$\frac{2 \tan 30^\circ}{(1 - \tan^2 30^\circ)}$ is equal to (a) $\tan 30^\circ$ (b) $\tan 60^\circ$ (c) $\tan 30^\circ$ (d) $\tan 0^\circ$
Q17	If a triangle ABC is right-angled at C. What will be the value of $\cos(A+B)$ (a) 1 (b) 0 (c) $\frac{\sqrt{3}}{2}$ (d) $\frac{1}{2}$
Q18	What is the minimum value of $\sin A$, $0 \leq A \leq 90^\circ$ (a) -1 (b) 0 (c) 1 (d) $\frac{1}{2}$
Q19	If $x \tan 45^\circ \sin 30^\circ = \cos 30^\circ \tan 30^\circ$, then x is equal to (a) $\sqrt{3}$ (b) $\frac{1}{2}$ (c) $\frac{1}{\sqrt{2}}$ (d) 1
Q20	If $\sec A + \tan A = x$, then $\tan A =$ (a) $\frac{x^2 - 1}{x}$ (b) $\frac{x^2 - 1}{2x}$ (c) $\frac{x^2 + 1}{x}$ (d) $\frac{x^2 + 1}{2x}$

Q21	$\frac{1+\tan^2 A}{1+\cot^2 A} =$ (a) $\sec^2 A$ (b) -1 (c) $\cot^2 A$ (d) $\tan^2 A$
Q22	If $\sin A + \sin^2 A = 1$, then find the value of $\cos^2 A + \cos^4 A$. (a) 1 (b) 2 (c) 5 (d) 2
Q23	If $\sec \theta - \tan \theta = 1/3$, then find the value of $(\sec \theta + \tan \theta)$ (a) 4 (b) 6 (c) 3 (d) 2
Q24	If $x = a \cos \theta$ and $y = b \sin \theta$, then $b^2 x^2 + a^2 y^2 =$ (a) ab (b) $b^2 + a^2$ (c) $a^2 b^2$ (d) $a^4 b^4$
Q25	$\sin 2A = 2 \sin A$ is true when $A =$ (a) 30° (b) 45° (c) 0° (d) 60°
Q26	The value of the expression $\sin^6 \theta + \cos^6 \theta + 3 \sin^2 \theta \cos^2 \theta$ is (a) 0 (b) 3 (c) 2 (d) 1
Q27	$5 \tan^2 A - 5 \sec^2 A + 1$ is equal to (a) 6 (b) -5 (c) 1 (d) -4
Q28	If $3 \sec \theta - 5 = 0$, then $\cot \theta$ is (a) $\frac{5}{3}$ (b) $\frac{4}{5}$ (c) $\frac{3}{4}$ (d) $\frac{3}{5}$
Q29	Assertion: The value of $\operatorname{cosec} 30^\circ + \cot 45^\circ$ is 3 Reason: $\operatorname{cosec} 30^\circ = 2$, $\cot 45^\circ = 1$ (a) both Assertion and reason are correct and reason is correct explanation for Assertion (b) both Assertion and reason are correct but reason is not correct explanation for Assertion (c) Assertion is correct but reason is false (d) both Assertion and reason are false

Q30	Assertion: In a right $\triangle ABC$, right angled at B, if $\tan A = 12/5$, then $\sec A = 13/5$. Reason: $\cot A$ is the product of $\cot$ and A. (a) both Assertion and reason are correct and reason is correct explanation for Assertion (b) both Assertion and reason are correct but reason is not correct explanation for Assertion (c) Assertion is correct but reason is false (d) both Assertion and reason are false
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Answers

Q.No.	Answers	Q.No.	Answers
Q1	A	Q16	B
Q2	D	Q17	B
Q3	A	Q18	B
Q4	C	Q19	D
Q5	B	Q20	B
Q6	C	Q21	D
Q7	D	Q22	A
Q8	B	Q23	C
Q9	B	Q24	C
Q10	B	Q25	C
Q11	A	Q26	d
Q12	A	Q27	d
Q13	C	Q28	c
Q14	D	Q29	b
Q15	A	Q30	c