PATH FINDERS — CLASS 10th

Path To Success

CHAPTER 8 : Introduction To Trignometry (30 MARKS TEST)

APURVA COMPLEX, PHASE 3
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INSTRUCTIONS:

1. PLEASE READ ALL QUESTIONS CAREFULLY AND ANSWER IN YOUR PAPER.
2. ALL QUESTIONS ARE COMPULSORY
3. CRYING IS ALLOWED BUT PLEASE DO SO QUIETLY.
4. DO NOT WIPE TEARS ON EXAM PAPER.
5. BEST OFF LUCK.

Q.No	QUESTIONS	MARKS
1.	If $cosecA = \sqrt{10}$, find $secA, cosA, tanA, cotA$.	2
2.	In ΔXYZ, $\angle Y = 90$, $XY=2\sqrt{6}$, $XZ - YZ = 2$ then find $secx + tanx$.	2
3.	Evaluate a) $cos60°cos30° + cos60°sin30°$. b) $4\cot^2 45° - \sec^2 60° + \sin^2 60 + \cos^2 90$.	2
4.	a) If θ is an acute angle and $sin\,θ - cos\,θ = 2$ find $2\tan^2 θ + \sin^2 θ - 1$. b) If $sin(A + b) = 1$ & $cos(A - b) = \frac{\sqrt{3}}{2}$, find A and B where A and B lies in first Quadrant.	2
5.	Prove that a) $\frac{1}{1+sinθ} + \frac{1}{1-sinθ} = 2\sec^2 θ$. b) $(1 + \tan^2 θ)(1 + sinθ)(1 - sinθ) = 1$	2
6.	Prove that $(sinθ + cosecθ)^2 + (cosθ + secθ)^2 = 7 + \tan^2 θ + \cot^2 θ)$	2
7.	Show that $cotθ - tanθ = \frac{2\cos^2 θ - 1}{sinθcosθ}$	2
8.	Prove that $\frac{\sin^3 θ + \cos^3 θ}{sinθ + cosθ} + sinθcosθ = 1$. OR Show that $\frac{\cos^2 θ}{1 - tanθ} + \frac{\sin^3 θ}{sinθ - cosθ} = 1 + sinθcosθ$.	3
9.	If $cosecA = 2$, find the value of $\frac{1}{tanA} + \frac{sinA}{1+cosA}$	3
10.	Prove that $\frac{(1+sinθ)^2}{\cos^2 θ} + \frac{(1-sinθ)^2}{\cos^2 θ} = 2\left(\frac{1+\sin^2 θ}{1-\sin^2 θ}\right)$	3
11.	Prove that $\frac{sinθ-cosθ+1}{sinθ+cosθ-1} = \frac{1}{secθ-tanθ}$	4