Class X Trigonometry   Test paper

1. If $\tan\theta = \dfrac{a}{b}$, than $\dfrac{a\sin\theta - b\cos\theta}{a\sin\theta + b\cos\theta}$

(A) $\dfrac{a^2 - b^2}{a^2 + b^2}$ (B) $\dfrac{a^2 - b^2}{a^2 + b^2}$ (C) $\dfrac{a^2 + b^2}{a^2 - b^2}$ (D) a + l

2. $(\sec^2\theta - 1)(1 - \cosec^2\theta) =:$

(A) – 1 (B) 1 (C) 0 (D) $\dfrac{1}{2}$

3. If $\sin A = \dfrac{1}{2}$, then the value of cot A is

(A) $\sqrt{3}$ (B) $\dfrac{3}{4}$ (C) $\dfrac{\sqrt{3}}{2}$ (D) 1.

4. If $\tan\theta = \cot\theta$, then the value $\sec\theta$ is

(A) 2 (B) 0 (C) $\dfrac{2}{\sqrt{3}}$ (D) $\sqrt{2}$

5. If $a\cos\theta + b\sin\theta = 4$ and $a\sin\theta - b\cos\theta = 3$, then $a^{2+}b^2$ is.

(A) 7 (B) 12 (C) 25 (D) 8

6. Prove the following identities:

(i) $(\cosec\theta - \cot\theta)^2 = \dfrac{1 - \cos\theta}{1 + \cos\theta}$

7. Prove the following identities:

$\dfrac{\cot A + \cosec A - 1}{\cot A - \cosec A + 1} = \dfrac{1 + \cos A}{\sin A}$

8. $\dfrac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta - 1} = \dfrac{1}{\sec\theta - \tan\theta}$

9. $\dfrac{\tan\theta}{1 + \cot\theta} + \dfrac{\cot\theta}{1 - \tan\theta} = 1 + \sec\theta\ \cosec\theta = 1 + \tan\theta + \cot\theta$

10. $\dfrac{\cos\theta - \sin\theta + 1}{\cos\theta + \sin\theta - 1} = \cosec\theta + \cot\theta$