Introduction to Trigonometry : Worksheet -6

1. If $\sec x = p + \frac{1}{4p}$ then $\sec x + \tan x =$ [ ]

a) $2p$ b) $\frac{1}{2p}$ c) $2p$ and $\frac{1}{2p}$ d) $2p$ or $\frac{1}{2p}$

2. The equality $\sin\theta = x + \frac{1}{x}$ holds for [ ]

a) all real of x
b) for all +ve real values of x
c) for no x
d) for all non – zero real values of x

3. Which of the following is not valid? [ ]

a) $\sin\theta = \frac{3}{5}$ b) $\operatorname{cosec} A = \frac{15}{17}$ c) $\cos B = \frac{2}{17}$ d) $\tan C = \frac{3}{4}$

4. If $\cos\alpha = 5/13$ then $\frac{2+3\cot\alpha}{4+9\sqrt{\sec^2\alpha - 1}} =$ [ ]

a) $\frac{65}{352}$ b) $\frac{352}{65}$ c) $-\frac{65}{352}$ d) $-\frac{352}{65}$

5. If $\tan A = \sqrt{2} - 1$ then $\sin A . \cos A = k$, then $1/k =$ [ ]

a) $\sqrt{2}$ b) 2 c) $2\sqrt{2}$ d) $1/2\sqrt{2}$

6. $\sin^6 A + \cos^6 A + 3\cos^2 A . \sin^2 A =$ [ ]

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

7. $\sec^4 A (1 - \sin^4 A) - 2\tan^2 A = k \Rightarrow k =$ [ ]

a) 1 b) 4 c) 9 d) 16

8. $\frac{\cos A . \operatorname{cosec} A - \sin A . \sec A}{\cos A + \sin A} = x + \operatorname{cosec} A$, then $x^2 - 1 =$ [ ]

a) $\sec^2 A$ b) $\tan^2 A$ c) $\sin^2 A$ d) $\cos^2 A$

9. $(1 + \cot A - \operatorname{cosec} A)(1 + \tan A + \sec A) =$ [ ]

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