Introduction to Trigonometry : Worksheet -3

1. If $\tan\theta = \frac{1}{\sqrt{3}}$ then $7\sin^2\theta + 3\cos^2\theta =$ [ ]

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

2. If $4\tan\theta = 3$, then the value of $\frac{4\sin^2\theta - 2\cos^2\theta}{4\sin^2\theta + 3\cos^2\theta} + 1 =$ [ ]

a) 21 b) 22 c) $\frac{22}{21}$ d) $\frac{21}{22}$

3. If $\sec\theta = \operatorname{cosec}\theta$, then $\theta =$ [ ]

a) 30° b) 45° c) 60° d) 90°

4. $\tan(90^\circ + \theta) =$ [ ]

a) $\tan\theta$ b) $\sin\theta$ c) $-\tan\theta$ d) $-\cot\theta$

5. If $\tan\theta$ is not defined then $\theta =$ [ ]

a) 0° b) 45° c) 60° d) 90°

6. $\sec(90 - \theta) =$ [ ]

a) $\cos\theta$ b) $\sin\theta$ c) $\operatorname{cosec}\theta$ d) $\cot\theta$

7. If $\cos\theta = -\frac{3}{5}$ and $\pi < \theta < 3\pi/2$, then $\frac{\operatorname{cosec}\theta + \cot\theta}{\sec\theta - \tan\theta} =$ [ ]

a) 1 b) 0 c) 6 d) 1/6

8. In Δle ABC, $\cos(A + B) + \cos C =$ [ ]

a) $\sin(A + B + C)$ b) $\cos(A + B + C)$ c) 0 d) -1

9. $\tan 2A =$ _____ if $A = 22^\circ 30'$ [ ]

a) 1 b) 2 c) $\sqrt{3}$ d) ∞

10. Given $\sin(90 - \theta) = 1$ then $\theta =$ [ ]

a) 0° b) 45° c) 60° d) 90°