Introduction to Trigonometry : Worksheet -1

1. $\tan\theta$ = [ ]

   a) $\frac{1}{\sec\theta}$ b) $\sqrt{\sec^2\theta - 1}$ c) $\sin\theta . \cos\theta$ d) $\sqrt{1 - \sec^2\theta}$

2. If $\sin\theta = \frac{3}{5}$ ($\theta < 90$) then $\cos\theta$ = [ ]

   a) $\frac{4}{5}$ b) $\frac{3}{4}$ c) $\frac{2}{3}$ d) $\frac{1}{2}$

3. If $\sec\theta + \tan\theta = m$ then $\sec\theta - \tan\theta$ = [ ]

   a) $-m$ b) $\frac{m}{2}$ c) $\frac{1}{m}$ d) $m + 1$

4. If $8\tan\theta = 15$ then $\cot\theta$ = [ ]

   a) $\frac{8}{15}$ b) $\frac{15}{8}$ c) $\frac{8}{17}$ d) $\frac{15}{17}$

5. Which one of the following is not an identity? [ ]

   a) $\sin^2\theta + \cos^2\theta = 1$ b) $\operatorname{cosec}^2\theta - \cot^2\theta = 1$

   c) $\sec^2\theta - \tan^2\theta = 1$ d) $\sec^2\theta + \tan^2\theta = 1$

6. If $\cot\theta = \frac{3}{4}$, then $\operatorname{cosec}\theta$ = [ ]

   a) $\frac{-5}{4}$ b) $\frac{-4}{5}$ c) $\frac{4}{5}$ d) $\frac{5}{4}$

7. If $7\tan A = 24$, then $\sin^2 A + \cos^2 A$ = [ ]

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

8. If $x = \sec\theta + \tan\theta$, $y = \tan\theta - \sec\theta$ then [ ]

   a) $xy = 1$ b) $x^2 + y^2 = 1$ c) $xy = -1$ d) $x^2 - y^2 = 1$

9. The value of $\sin\theta$ in terms of $\sec\theta$ is [ ]

   a) $\sqrt{\sec^2\theta - 1}$ b) $\frac{\sqrt{\sec^2\theta - 1}}{\sec\theta}$ c) $\frac{\sec\theta}{\sqrt{\sec^2\theta - 1}}$ d) $\sqrt{\frac{\sec^2\theta - 1}{\sec\theta}}$

10. If $\sec\theta + \tan\theta = 4$, then $\sec\theta - \tan\theta$ = [ ]

    a) 4 b) 3 c) ¼ d) 16