1. If $tan\theta = \frac{20}{21}$, then find the value of $\frac{cos\theta - sin\theta + 1}{cos\theta + 1 + sin\theta}$.

2. If $sin\theta = \frac{a}{b}$, find $sec\theta + tan\theta$ in terms of a and b.

3. If $\frac{tanA}{secA-1} + \frac{tanA}{secA+1} = 2coecA$, then find which of the following holds true for the similar value.

a) $\frac{tanA}{secA-1} + \frac{tanA}{secA-1}$

b) $\frac{tanA}{secA-1} - \frac{tanA}{secA+1}$

c) $\frac{tanA}{secA+1} - \frac{tanA}{1-secA}$

d) All the above

4. Find the value of x if $4\left(\frac{\sec^2 59° - \cot^2 31°}{3}\right) - \frac{2}{3}\sin 90° + 3\tan^2 56° \times \tan^2 34° = \frac{x}{3}$

5. Find the value of θ, if $\sqrt{3}\, tan2\theta = cos60° + sin45°cos45°$

6. If $m = \frac{cos\alpha}{cos\beta}$ and $n = \frac{cos\alpha}{sin\beta}$, then value of $(m^2 + n^2)\cos^2\beta$ is.....

7. Find the value of $(\alpha + \beta)$ if $sin\alpha = \frac{1}{\sqrt{2}}$ and $cos\beta = \frac{1}{\sqrt{2}}$.