

Activity Worksheet

Challenging brain

Sub : Mathematics

Grade: X

Date:

Name:

ID No.....

Assignment

1. If $\operatorname{cosec} \theta + \cot \theta = p$, then prove that $\cos \theta = \frac{p^2 - 1}{p^2 + 1}$.

Sol.

2. If $\tan \theta + \sec \theta = 1$, then prove that $\sec \theta = \frac{1^2 + 1}{2}$.

Sol.

3. In a triangle ABC, right-angled at C, if $A = \sqrt{5}$, find the value of the following:
(i) $\sin A \cos B - \cos A \sin B$ (ii) $\cos A \cos B + \sin A \sin B$

Sol. (i)

(ii)

4. Evaluate:

(i) $\frac{5 \cos^2 60^\circ + 4 \sec^2 30^\circ - \tan^2 45^\circ}{\sin^2 30^\circ + \cos^2 30^\circ}$

(ii) $\frac{\tan^2 60^\circ - 1}{\tan^2 60^\circ + 1}$

Sol. (i)

(ii)
