

Activity Worksheet

Challenging brain

Sub : Mathematics

Grade: X

Date:

Name:

ID No.....

1. State whether the following statements are true or false. Justify your answer.

i. The value of $2\sin \theta$ can be $\left(a + \frac{1}{a}\right)$, where a is a positive number and $a \neq 1$.

Sol.

ii. $\tan \theta$ increases faster than $\sin \theta$ as θ increases.

Sol.

iii. Show that: $\frac{\cos^2(45^\circ + \theta) + \cos^2(45^\circ - \theta)}{\tan(60^\circ + \theta)\tan(30^\circ - \theta)} = 1$

Sol.

iv. If $2\sin^2 \theta - \cos^2 \theta = 2$ then find the value of θ .

Sol.

v. Prove that: $\frac{1 + \sec \theta - \tan \theta}{1 + \sec \theta + \tan \theta} = \frac{1 - \sin \theta}{\cos \theta}$

Sol.

vi. If $\cot \theta = \frac{7}{8}$, check whether $\frac{1 - \tan^2 \theta}{1 + \tan^2 \theta} = \cos^2 \theta - \sin^2 \theta$ or not.

Sol.
