Activity Worksheet

Challenging brain

Sub : Mathematics **Grade: X** **Date: .....**

Name: ..... **ID No.....**

State true or false for the following statements and justify your answer.

i. The value of the expression (sin70° -cos70°) is negative.

Sol.

ii. If $\cos A + \cos^2 A = 1$, *then* $\sin^2 A + \sin^4 A = 1$.

Sol.

iii. Prove that : $\frac{\tan A}{1+\sec A} - \frac{\tan A}{1-\sec A} = 2\operatorname{cosec} A$

Sol.

iv. If sin(A - B) = $\frac{\sqrt{3}}{2}$ cos(A + B) = 0, 0°< A + B $\leq$ 90°, A> B, find A and B.

Sol.

v. Given cos A = $\frac{20}{29}$ in a right triangle ABC, right-angled at B, find

(a) sin AcosC +cos AsinC (b) cos AcosC -sin AsinC.

Sol.

vi. If sin Δ +cos Δ = p and sec Δ +cosec Δ = q, then prove that $q(p^2 - 1) = 2p$.

Sol.