SUBJECT - MATHEMATICS
WORKSHEET

1) Prove that : $(\sin\theta + \cos\theta) = \sqrt{2}\sin\theta$, when $\sin\theta - \cos\theta = \sqrt{2}\cos\theta$.

2) Show that : $\dfrac{\sin\alpha + \sin\beta}{\cos\alpha - \cos\beta} + \dfrac{\cos\alpha + \cos\beta}{\sin\alpha - \sin\beta} = 0$.

3) Find the value of $\tan 1^\circ . \tan 2^\circ . \tan 3^\circ \ldots\ldots \tan 88^\circ . \tan 89^\circ$.

4) Find the value of $\cos 1^\circ . \cos 2^\circ . \cos 3^\circ \ldots\ldots \cos 158^\circ . \cos 159^\circ$.

5) If θ is a positive acute angle then the value of $\sec\theta$ cannot be ——

a) greater than 1
b) less than 1
c) equals to 1
d) 0

6) If $\sin\theta = \frac{4}{5}$, where θ is a positive acute angle then $\cos\theta =$

a) $\frac{3}{5}$
b) $-\frac{3}{5}$
c) $\pm\frac{3}{5}$
d) none of these.

7) If $\sin\theta + \sin^2\theta = 1$, show that $\cos^4\theta + \cos^2\theta = 1$

8) Find the value of : $\dfrac{\tan 45^\circ - \sin 30^\circ + \cos 60^\circ}{\sec 60^\circ - \sin 45^\circ . \cos 45^\circ + \cos 30^\circ}$