

1) Find the exact value by using a half-angle identity.

a) $\sin 75^\circ$

b) $\cos 75^\circ$

c) $\tan 75^\circ$

2) Determine all solutions of the equation in radians.

Find $\cos \frac{x}{2}$, given that $\cos x = \frac{1}{4}$ and x terminates in $0 < x < \frac{\pi}{2}$.

3) Use an identity to write the expression as a single trigonometric function or as a single number.

a) $\sqrt{\frac{1 - \cos 46^\circ}{2}}$

b) $\frac{\sin 34^\circ}{1 + \cos 34^\circ}$

Answer Key

Testname: WORKSHEET 5-6 HALF ANGLE

1) a) $\frac{1}{2}\sqrt{2+\sqrt{3}}$ b) $\frac{1}{2}\sqrt{2-\sqrt{3}}$ c) $2+\sqrt{3}$

2) $\frac{\sqrt{10}}{4}$

3) a) $\sin 23^\circ$ b) $\tan 17^\circ$