

Half Angle Worksheet

Period _____

Use a half-angle identity to find the exact value of each expression.

1) $\sin 15^\circ$

2) $\sin \frac{7\pi}{8}$

3) $\cos 75^\circ$

4) $\cos \frac{5\pi}{8}$

5) $\tan 105^\circ$

Find the exact value if $\sin x = \frac{1}{2}$ and $\sin y = \frac{3}{5}$.

6) $\cos(x - y)$

7) $\sin 2y$

8) $\sin \frac{x}{2}$

9) $\cos \frac{y}{2}$

Use the half-angle identities to find all solutions in the interval $0 \leq x < 2\pi$.

$$10) \cos^2 x = \sin^2 \frac{x}{2}$$

$$11) \sin^2 x = \cos^2 \frac{x}{2}$$

$$12) \sin^2 \frac{x}{2} = \cos x - 1$$