

## Double &amp; Half-Angle Identities

Use the double and half-angle identities to find the exact value of each.

1)  $2\cos^2 \frac{\pi}{8} - 1$

2)  $\frac{2\tan \frac{\pi}{8}}{1 - \tan^2 \frac{\pi}{8}}$

3)  $\cos^2 \frac{\pi}{12} - \sin^2 \frac{\pi}{12}$

4)  $1 - 2\sin^2 \frac{7\pi}{12}$

$$5) 4\sin \frac{2\pi}{3} \cos \frac{2\pi}{3}$$

$$6) \sin 337.5^\circ$$

$$7) \cos 285^\circ$$

$$8) \tan 22.5^\circ$$