

Solve the following equations, in the intervals given.

**a**  $\sin 2\theta = \sin \theta, 0 \leq \theta \leq 2\pi$

**c**  $3 \cos 2\theta = 2 \cos^2 \theta, 0 \leq \theta < 360^\circ$

**e**  $3 \cos \theta - \sin \frac{\theta}{2} - 1 = 0, 0 \leq \theta < 720^\circ$

**g**  $2 \sin \theta = \sec \theta, 0 \leq \theta \leq 2\pi$

**i**  $2 \tan \theta = \sqrt{3}(1 - \tan \theta)(1 + \tan \theta), 0 \leq \theta \leq 2\pi$

**k**  $4 \tan \theta = \tan 2\theta, 0 \leq \theta \leq 360^\circ$

**b**  $\cos 2\theta = 1 - \cos \theta, -180^\circ < \theta \leq 180^\circ$

**d**  $\sin 4\theta = \cos 2\theta, 0 \leq \theta \leq \pi$

**f**  $\cos^2 \theta - \sin 2\theta = \sin^2 \theta, 0 \leq \theta \leq \pi$

**h**  $2 \sin 2\theta = 3 \tan \theta, 0 \leq \theta < 360^\circ$

**j**  $\sin^2 \theta = 2 \sin 2\theta, -180^\circ < \theta < 180^\circ$

**a**  $0, \frac{\pi}{3}, \pi, \frac{5\pi}{3}, 2\pi$

**c**  $30^\circ, 150^\circ, 210^\circ, 330^\circ$

**e**  $60^\circ, 300^\circ, 443.6^\circ, 636.4^\circ$

**g**  $\frac{\pi}{4}, \frac{5\pi}{4}$

**h**  $0^\circ, 30^\circ, 150^\circ, 180^\circ, 210^\circ, 330^\circ$

**j**  $-104.0^\circ, 0^\circ, 76.0^\circ$

**k**  $0^\circ, 35.3^\circ, 144.7^\circ, 180^\circ, 215.3^\circ, 324.7^\circ, 360^\circ$   
51.3°

**b**  $\pm 38.7^\circ$

**d**  $\frac{\pi}{12}, \frac{\pi}{4}, \frac{5\pi}{12}, \frac{3\pi}{4}$

**f**  $\frac{\pi}{8}, \frac{5\pi}{8}$

**i**  $\frac{\pi}{6}, \frac{2\pi}{3}, \frac{7\pi}{6}, \frac{5\pi}{3}$