Find the general solutions to the following equations

\[ 2\cos(2x) = 1 \]

\[ \cot \left( \frac{1}{2}x \right) = -\sqrt{3} \]
Find the general solutions to the following equations

\[
\sin \left( \frac{1}{3} x \right) = -\frac{\sqrt{3}}{2}
\]

\[
\csc(3x) - 2 = 0
\]
Find the general solutions to the following equations

\[ \sqrt{3}\cot\left(\frac{1}{4}t\right) = 1 \]

\[ \sec\left(\frac{1}{5}x\right) = -\frac{2}{\sqrt{3}} \]
Find the exact value of all angles $\theta$ in the interval $[0, 2\pi)$ that satisfy the equations.

$$\sqrt{3} \tan(2\theta) - 1 = 0$$

$$2\sin(2\theta) + 1 = 0$$
Find the exact value of all angles \( \theta \) in the interval \([0,2\pi)\) that satisfy the equations.

\[
\sqrt{3} \csc(3\theta) - 2 = 0
\]

\[
\cos\left(\frac{1}{2} \theta\right) - 1 = 0
\]