

Solving Equations with Reciprocal Functions

Date _____ Period _____

Solve each equation in degrees.

1) $5 + \csc(\theta + 270) = \frac{15 + 2\sqrt{3}}{3}$

2) $\frac{-3 + 2\sqrt{3}}{3} = -1 + \csc(\theta + 30)$

3) $4\sin(\theta + 60) = -2\sqrt{3}$

4) $-\frac{1}{2} \cdot \sin -3\theta = -\frac{1}{4}$

5) $4 + \sin 3\theta = \frac{8 - \sqrt{2}}{2}$

Solve each equation in radians.

6) $2\csc(-3\theta + \pi) = 2$

7) $\sqrt{3} = 3\tan\left(\frac{\theta}{3} + \frac{7\pi}{4}\right)$

8) $4\cos\left(-3\theta + \frac{4\pi}{3}\right) = 2$

9) $4\cos\left(2\theta + \frac{3\pi}{4}\right) = 4$

10) $5 + \sin\left(-2\theta + \frac{\pi}{3}\right) = \frac{11}{2}$