Name_____

Simple Trig Equations

Date_____ Period____

Solve each equation for $0 \le \theta < 360$.

1) $\frac{1}{2} = \cos\ \theta$

2) $\tan\ \theta = -1$

3) $\sec\left(\theta + 45\right) = 1$

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

5) $\cot 2\theta = \frac{\sqrt{3}}{3}$

6) $-6\sqrt{3} = -9\csc 3\theta$

7) $\frac{3}{2} \cdot \tan\left(2\theta + 135\right) = -\frac{\sqrt{3}}{2}$

8) $-4\cos\left(150 + \frac{\theta}{4}\right) = 2\sqrt{3}$

9) $2 - \frac{1}{2} \cdot \sin(3\theta + 330) = \frac{8 - \sqrt{3}}{4}$

10) $-2 + \frac{1}{4} \cdot \cot(2\theta + 30) = -\frac{7}{4}$

Find all solutions to each equation in radians.

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

12) $\frac{2}{5} \cdot \cos\theta = \frac{\sqrt{2}}{5}$

13) $\frac{\sqrt{3}}{3} = \cot\left(\theta + \frac{\pi}{6}\right)$

14) $2 = \csc\left(\theta + \frac{2\pi}{3}\right)$

15) $4 + \sec 3\theta = 2$

16) $\frac{-15 + \sqrt{3}}{3} = -5 + \tan\left(\theta + \frac{3\pi}{4}\right)$