

Name: \_\_\_\_\_

Trig Equation Practice

Solve each equation on  $0 \leq \theta \leq 2\pi$ . Give exact answers in terms of  $\pi$ .

1.)  $2\sin\theta + 3 = 2$

2.)  $2\sin^2\theta - 1 = 0$

3.)  $4\cos^2\theta - 3 = 0$

4.)  $\tan\theta + 1 = 0$

5.)  $\sqrt{3}\cot\theta + 1 = 0$

6.)  $4\sec\theta + 6 = -2$

7.)  $2\cos^2\theta + \cos\theta = 0$

8.)  $2\sin^2\theta - \sin\theta - 1 = 0$

9.)  $(\tan\theta - 1)(\sec\theta - 1) = 0$  hint: set each factor = 0 and solve

10.)  $1 - \cos^2\theta = 1 + \cos\theta + \cos^2\theta$

$$11.) \quad 1 - \sin^2 \theta + \sin \theta = \sin^2 \theta$$

$$12.) \quad 1 - \cos^2 \theta = 6(\cos \theta + 1)$$

$$13.) \quad 2(1 - \cos^2 \theta) = 3(1 - \cos \theta)$$

$$14.) \quad \sin \theta = \frac{1}{\sin \theta}$$

$$15.) \quad \sec^2 \theta - 1 = \frac{3}{2} \sec \theta$$

$$16.) \quad \cos^3 \theta = \cos \theta$$

$$17.) \quad 2 \sin(2x) - \sqrt{3} = 0$$

$$18.) \quad 2 \cos(3x) + 1 = 0$$

$$19.) \quad \sin\left(\frac{x}{3}\right) = \frac{1}{2}$$

$$20.) \quad 1 = \sin(2x + \pi)$$

$$21.) \quad \frac{-\sqrt{3}}{2} = \cos(2x)$$