

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### Precalculus: Solve Trig Equations

Find the exact solution over the indicated interval.

1.  $\sin x + 1 = 0, 0 \leq x < 2\pi$

2.  $\cos x - 1 = 0, 0 \leq x < 2\pi$

3.  $\sin x + 1 = 0, \text{ all real } x$

4.  $\cos x - 1 = 0, \text{ all real } x$

5.  $\sin 2x = \frac{1}{2}, 0 \leq x < 2\pi$

6.  $\sqrt{2} \cos 2x - 1 = 0, 0 \leq x < 360^\circ$

7.  $2 \sin x + \sqrt{3} = 0, \text{ all real } x$

8.  $\sqrt{3} \tan x - 1 = 0, \text{ all real } x$

9.  $\tan x = -2 \sin x, 0 \leq x < 2\pi$

10.  $2 \cos^2 \theta + 3 \sin \theta = 0, 0 \leq \theta < 360^\circ$

11.  $\sin^2 \theta + 2 \cos \theta = -2, 0^\circ \leq \theta < 360^\circ$

12.  $2 \cos^2 x - \cos x = 0$ , all real  $x$

13.  $\sin x \tan^2 x = \sin x, 0^\circ \leq x < 360^\circ$

14.  $2 \cos x \sin x - \cos x = 0, 0 \leq x < 2\pi$

15.  $\tan^2 x = 3, 0^\circ \leq x < 360^\circ$

16.  $\sqrt{2} \tan x \cos x - \tan x = 0, 0 \leq x < 2\pi$

17.  $4 \cos^2 x - 4 \cos x + 1 = 0$ , all real  $x$

18.  $2 \sin^2 x + 3 \sin x + 1 = 0$ , all real  $x$

**Challenge:**  $4 \cos^2 2x - 4 \cos 2x + 1 = 0, 0 \leq x < 2\pi$