

# Quadratic Trig Equations by factoring:

## Developing Skills

In 3-8, find the exact solution set of each equation if  $0^\circ \leq \theta < 360^\circ$ .

3.  $2 \sin^2 \theta + \sin \theta - 1 = 0$

4.  $3 \tan^2 \theta = 1$

5.  $\tan^2 \theta - 3 = 0$

6.  $2 \sin^2 \theta - 1 = 0$

7.  $6 \cos^2 \theta + 5 \cos \theta - 4 = 0$

8.  $2 \sin \theta \cos \theta + \cos \theta = 0$

In 9-14, find, to the nearest tenth of a degree, the values of  $\theta$  in the interval  $0^\circ \leq \theta < 360^\circ$  that satisfy each equation.

9.  $\tan^2 \theta - 3 \tan \theta + 2 = 0$

10.  $3 \cos^2 \theta - 4 \cos \theta + 1 = 0$

11.  $9 \sin^2 \theta - 9 \sin \theta + 2 = 0$

12.  $25 \cos^2 \theta - 4 = 0$

13.  $\tan^2 \theta + 4 \tan \theta - 12 = 0$

14.  $\sec^2 \theta - 7 \sec \theta + 12 = 0$

In 15-20, find, to the nearest hundredth of a radian, the values of  $\theta$  in the interval  $0 \leq \theta < 2\pi$  that satisfy the equation.

15.  $\tan^2 \theta - 5 \tan \theta + 6 = 0$

16.  $4 \cos^2 \theta - 3 \cos \theta = 1$

17.  $5 \sin^2 \theta + 2 \sin \theta = 0$

18.  $3 \sin^2 \theta + 7 \sin \theta + 2 = 0$

19.  $\csc^2 \theta - 6 \csc \theta + 8 = 0$

20.  $2 \cot^2 \theta - 13 \cot \theta + 6 = 0$