Trigonometric Equations

1. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.206 #12)

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

2. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.206 #16)

$$4\sin^2\theta = 3$$

3. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.206 #18)

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

4. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.206 #26)

$$\sqrt{3}\tan\theta - 1 = 0$$

5. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.206 #19)

$$\cos(3\theta) = \frac{\sqrt{2}}{2}$$

6. Solve each equation on the interval $0 \le \theta < 2\pi$
(Similar to p.206 #34)

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

7. Solve each equation. Give a general formula for all the solutions.
(Similar to p.206 #38)

$$\sin\theta = \frac{-1}{2}$$

8. Solve each equation. Give a general formula for all the solutions.
(Similar to p.206 #44)

$$\tan\frac{\theta}{3} = 1$$

9. Use a calculator to solve each equation on the interval $0 \le \theta < 2\pi$. Round answers to two decimal places.
(Similar to p.206 #46)

$$\cos\theta = 0.27$$

10. Use a calculator to solve each equation on the interval $0 \le \theta < 2\pi$. Round answers to two decimal places.
(Similar to p.206 #52)

$$\csc\theta = -2$$

11. Solve each equation on the interval: $0 \le \theta < 2\pi$.
(Similar to p.207 #60)

$$4\cos^2\theta - 1 = 0$$

12. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.
(Similar to p.207 #60)

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

13. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.
(Similar to p.207 #64)

$$2 - 2\cos^2\theta + \sin\theta = -1$$

14. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.
(Similar to p.207 #68)

$$\cos(-\theta) + \sin\theta = 0$$

15. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.

$$\tan^2\theta - \sqrt{3}\tan\theta - \tan\theta + \sqrt{3} = 0$$

16. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.

$$\sin\theta - \sqrt{3}\cos\theta = 2$$

17. Solve each equation on the interval:
$0 \leq \theta < 2\pi$.
(Similar to p.207 #80)

$$\csc\theta = \tan\theta + \cot\theta$$

18. Use a graphing utility to solve each equation. Express the solution(s) rounded to two decimal places.
(Similar to p.207 #88)

$$x^2 - 4\cos x = 0$$

19. Find the EXACT answer between $0 \leq \theta < \pi/2$

$$\tan^2 x - 8\tan x + 1 = 0$$