Show all necessary steps in each problem. Full credit is based on work shown!

1. **Solve each equation on the interval** $0 \le \theta < 2\pi$ **. Write angles in radians not degrees.**

    4pts

    a. $\tan(2\theta) = -1$

    8pts

    b. $2\cos^2 \theta + 3\cos \theta + 1 = 0$

    8pts

    c. Use a calculator to solve: $\sin \theta = 0.75$ (Round answers to 3 decimal places.)
       (Remember to use radian mode for angles.)

    Show a sketch of the graph of $y = \sin \theta$; with the solutions to $\sin \theta = 0.75$ marked on the graph.
    Remember to show solutions in the interval $0 \le \theta < 2\pi$.