MAT 123 - HW 9 Supplement

For each of the functions below, identify the amplitude, period, phase shift, and center line for the graph. Then draw one period of the graph, making sure to clearly label the axes of your graph.

1. \( f(x) = -2 \sin\left(\frac{x}{2} + \frac{\pi}{6}\right) \)
2. \( g(x) = \sin(-\pi x + \pi) - 1 \)
3. \( h(x) = 7 \cos(2\pi x) - 3/2 \)

For each of the equations below, find all of the possible solutions (there will be infinitely many).

4. \( 4 \tan \theta + 2 = 2 \tan \theta \)
5. \( 4 \sin^2 \theta - 1 = 0 \)
6. \( \cos^2 x + \cos x = \sin^2 x \)
7. \( 2 \cos(x) \sin(5x) + 2 \cos(x) + \sin(5x) + 1 = 0 \)

Write your answers to these questions on separate sheets of paper, showing all of your work. Staple all of this together, with this page as the first page, and turn this assignment in at the start of class on June 29.