Additional Problems Assignment 7

1. The pressure, P, in a traveling sound wave is given by $p = a\sin(b(t-c))$, where a, b, and c are constants, P is the pressure in dynex per square centimeter, and t is in seconds. Find the amplitude, period and phase shift of the pressure given by:

   (a) $P = 20\sin((100\pi(t-0.2))$

   (b) $P = 40\sin((200\pi(t-0.5))$

2. Carefully graph the following:

   (a) $y = \sin(x - \frac{\pi}{6})$

   (b) $y = \cos(x - \frac{\pi}{4})$

   (c) $y = \cos(x + \frac{\pi}{4})$

   (d) $y = 2\sin(3x - \frac{3\pi}{2}) - 1$

3. For each of the following use the basic trigonometric identities to find the exact value of the other 5 trig functions for the angle θ (so no calculator). Remember that in each case you need to consider two different quadrants.

   (a) $\sin(\theta) = \frac{2}{3}$

   (b) $\tan(\theta) = -\frac{5}{4}$

4. Carefully verify the following identity:

$$\sin(\theta)\sec(\theta) = \tan(\theta).$$