Physics 256 Assignment 1 Fall 2012
Submit online or Place in Phys 256 box, Phys 2nd floor Tuesday September 18th, 2012 by 4pm
75 marks

Hecht question 3.14.

Hecht questions: 2.2, 2.4.

Do 2.12- Then if this is the form of the wave at t=0, and the wave is travelling leftward, write out the wave equation.

Do 2.26 then redo using equation 2.34. Also give the direction of motion.

Do 2.32, showing which are travelling waves by the form of the function. Don't draw profiles but find the speed and direction of travel for each travelling wave.

Phasor Question

In each part, draw a phasor diagram to represent the sum of the two waves below. Using the diagram, and the resulting trig identities, calculate the equation of the resulting wave.

a) $\psi_1 = 2\sin(kx + \omega t)$
$\psi_2 = 7\sin(kx + \omega t - \pi/4)$

b) $\psi_1 = 3\sin(\omega t)$
$\psi_2 = 4\cos(\omega t)$