12.710 Marine Geology and Geophysics
Homework 2
Structure of the Earth

1) Assume that the Earth is a uniform sphere. *(a)* The travel-time for a P-wave in Earth with $\Delta = 90°$ is 13.0 minutes from a source just below the surface. What is the P-wave velocity? *(b)* Now assume that $\Delta = 30°$. Use the attached travel time curve and again determine the P-wave velocity? *(c)* Compare the results. What is the implication for the velocity structure of the Earth?

2) Using the attached travel-time curves and the two seismograms, determine for each earthquake:

(a) the epicentral distance in degrees; and
(b) the origin time