Soil Water Movement
Problem Set 2 using real-life data

h (cm)	0	-4	-14	-29	-54	-104	-204	-404
	θ	θ	θ	θ	θ	θ	θ	θ
Soil A	0.45	0.41	0.36	0.33	0.30	0.28	0.26	0.23
Soil B	0.64	0.59	0.47	0.47	0.46	0.44	0.44	0.43

1. Moisture retention data is presented above for two soils from Willsboro, NY. Plot the data putting soil water matric potential (Ψ_m) in units of kPa on the Y axis.
   a) What is the porosity of each soil?
   b) Can you decide which soil holds more plant-available water?
   c) One soil is a silt loam and the other a clay loam. Which would you hypothesize to be which and why?

Depth of measurement	7.5 cm	22.5 cm	45 cm	75 cm
Julian date	Water potential kPa	Water potential kPa	Water potential kPa	Water potential kPa
162	-6.6	-3.5	-1.5	3.0
187	-10.6	-17.1	-3.7	-7.0
227	-6.3	-44.6	-41.4	-5.1

2. More data from Willsboro is given above. These soil water potential readings (from tensiometers) are from a sandy loam soil that has a clay layer in the soil profile. Plot the potentials at each date and depth. Which way is water moving on the three dates?