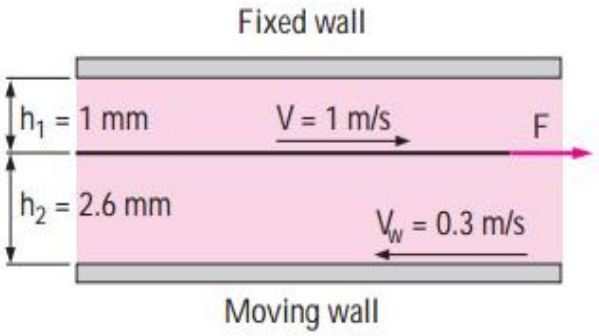
Adı Soyadı:
Numara:

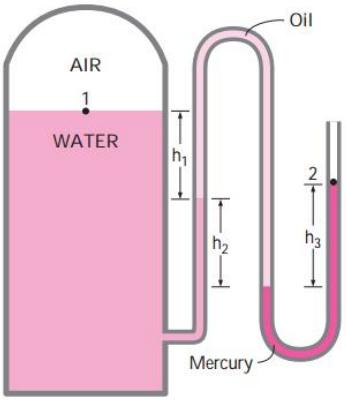
HİDROLİK DERSİ ÖDEV

TESLİM TARİHİ: 10.03.2015

Problem 1. A thin 20-cm x 20-cm flat plate is pulled at 1 m/s horizontally through a 3.6-mm-thick oil layer sandwiched between two plates, one stationary and the other moving at a constant velocity of 0.3 m/s, as shown in Figure. The dynamic viscosity of oil is 0.027 Pas. Assuming the velocity in each oil layer to vary linearly, (a) plot the velocity profile and find the location where the oil velocity is zero and (b) determine the force that needs to be applied on the plate to maintain this motion.



Problem 2. The water in a tank is pressurized by air, and the pressure is measured by a multifluid manometer as shown in Figure. Determine the gage pressure of air in the tank if h_1= 0.2 m, h_2 = 0.3 m, and h_3 = 0.46 m. Take the densities of water, oil, and mercury to be 1000 kg/m^3, 850 kg/m^3, and 13,600 kg/m^3, respectively.



Not: Ödev çözümleri bu kağıda el yazısı ile düzgün ve anlaşılır bir şekilde çözülecektir.

Her öğrenci ödevini teslim tarihinde ders saatinde kendi öğretiminde ve kendisi teslim edecektir.