7. An experiment is to be designed to measure the differential cross-section for elastic pion–proton scattering at a CM scattering angle of 70° and a pion CM kinetic energy of 490 keV. (The electron-volt (eV) is the atomic unit of energy.) Find the angles in the Lab at which the scattered pions, and the recoiling protons, should be detected, and the required Lab kinetic energy of the pion beam. (The ratio of pion to proton mass is 1/7.)