5-4)

A rectangular loop (L × W) of wire (mass M) is hinged along its top edge so as to be able to swing freely. A current I is circulated around the loop as shown. When a vertical, upward pointing magnetic field B is applied to the loop, it swings upward, coming to equilibrium with its plane making an angle  $\theta$  with the vertical. Find the angle  $\theta$ .

