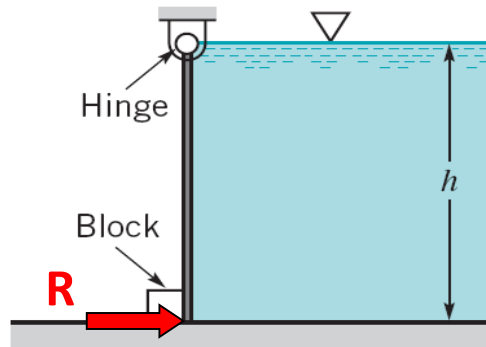NAME

Student ID

Quiz 2. A gate of negligible weight is used to hold back water in a channel of width b as shown below.

(a) Find the resultant force F_R acting on the gate. (3 points)

(b) Find the vertical location of center of pressure y_R. (Hint: $I_{xc} = \dfrac{bh^3}{12}$) (3 points)

(c) Determine the force of the block against the gate R in terms of the specific weight of water γ, water depth h, and width b. (4 points)