

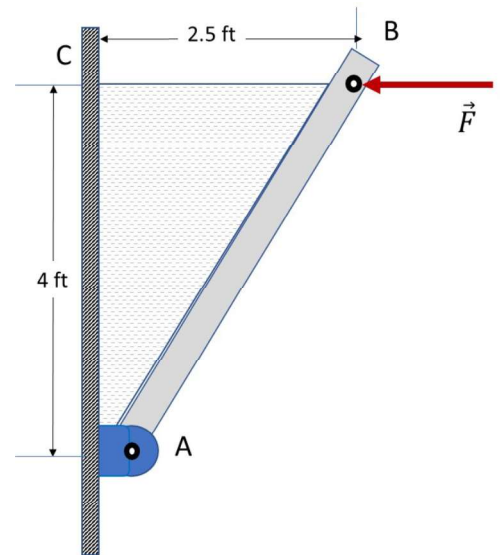
Homework H16.A

Given: The gate is structured as shown and has a width of b (out of the paper). The specific weight of the water is ρg .

Find:

- Calculate the magnitude and location of the equivalent loading on the face of the gate.
- Determine the reaction F to maintain the gate in equilibrium.
- Determine the reactions at pin joint A.

Use the following parameter values in your work: $b = 3$ ft and $\rho g = 62.4$ lb/ft³.



Homework H16.B

Given: A water gate, shaped as a quarter-circle arc, has a width of b (out of the paper). The gate is pinned to a fixed support at A and is supported by a seal at B. The specific weight of the water is ρg .

Find: Determine the reaction on the gate at pin joint A and seal B.

Use the following parameter values in your work: $b = 10$ ft, $d = 8$ ft, $R = 16$ ft and $\rho g = 62.4$ lb/ft³.

