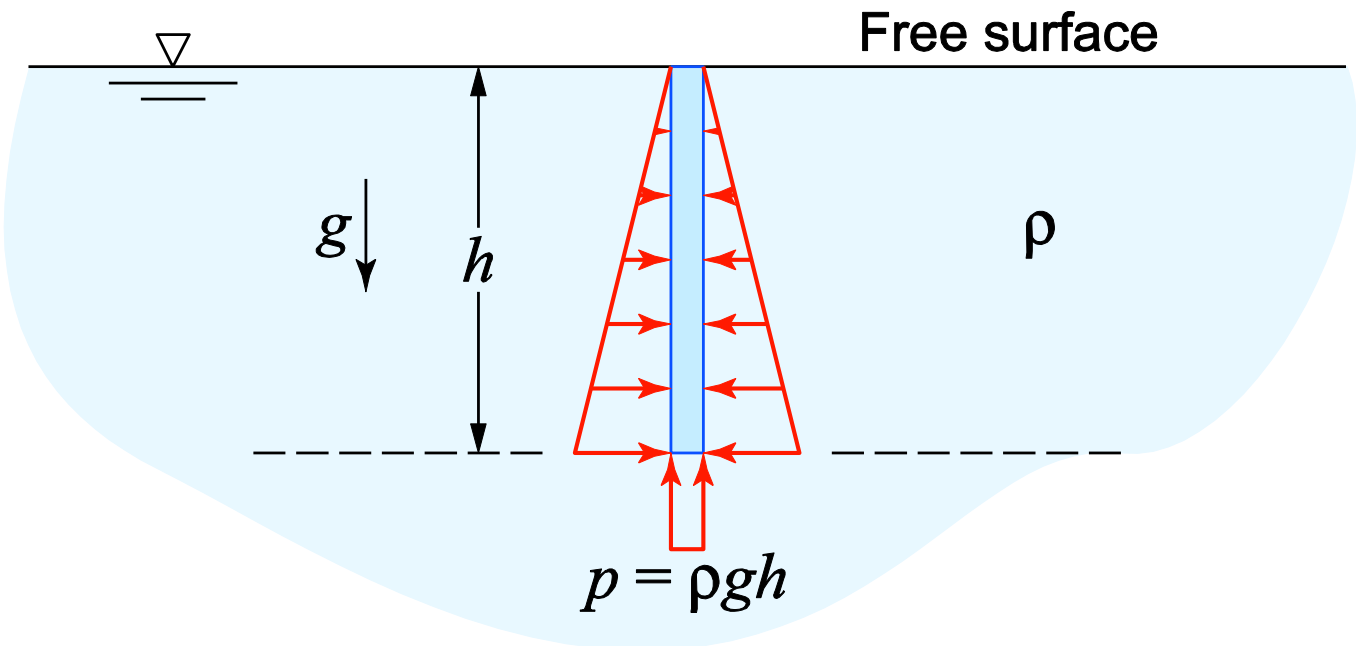
Announcements

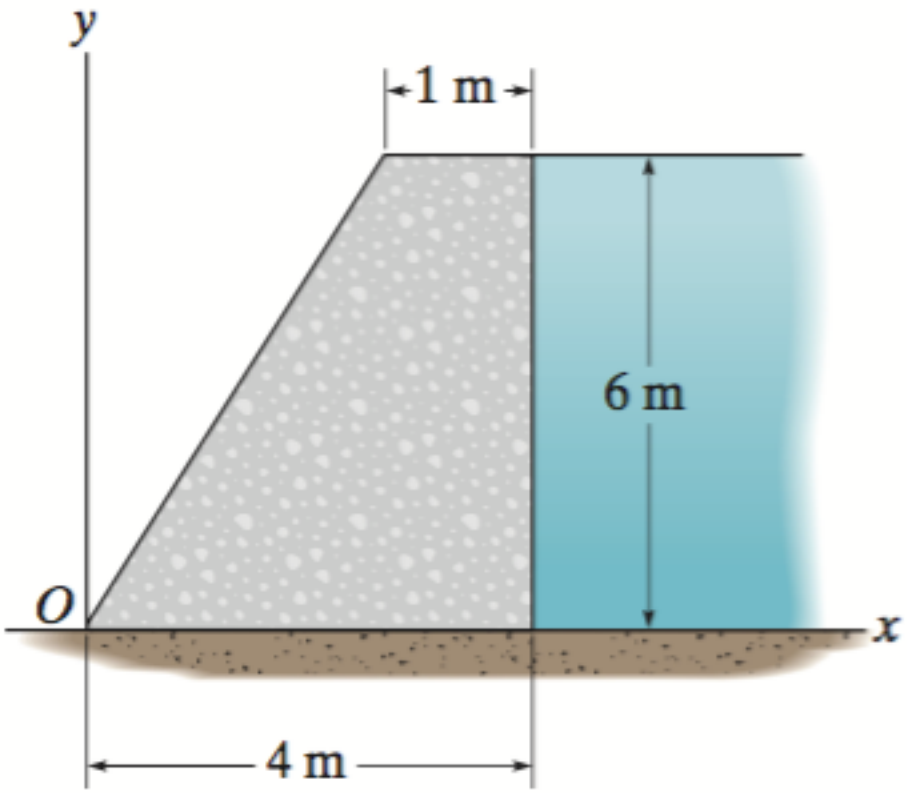
- CBTF Quiz 7 next week

- Upcoming deadlines:
- Friday (12/1)
  - WA #4
- Saturday (12/2)
  - ME HW25
- Tuesday (12/5)
  - PL HW24

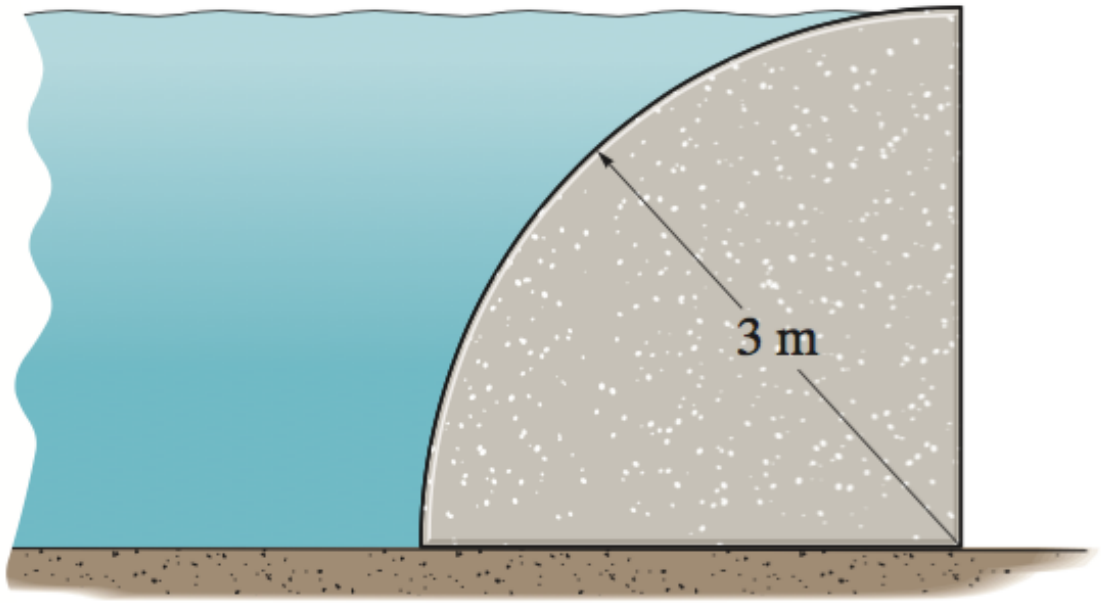
Recap: Fluid Pressure



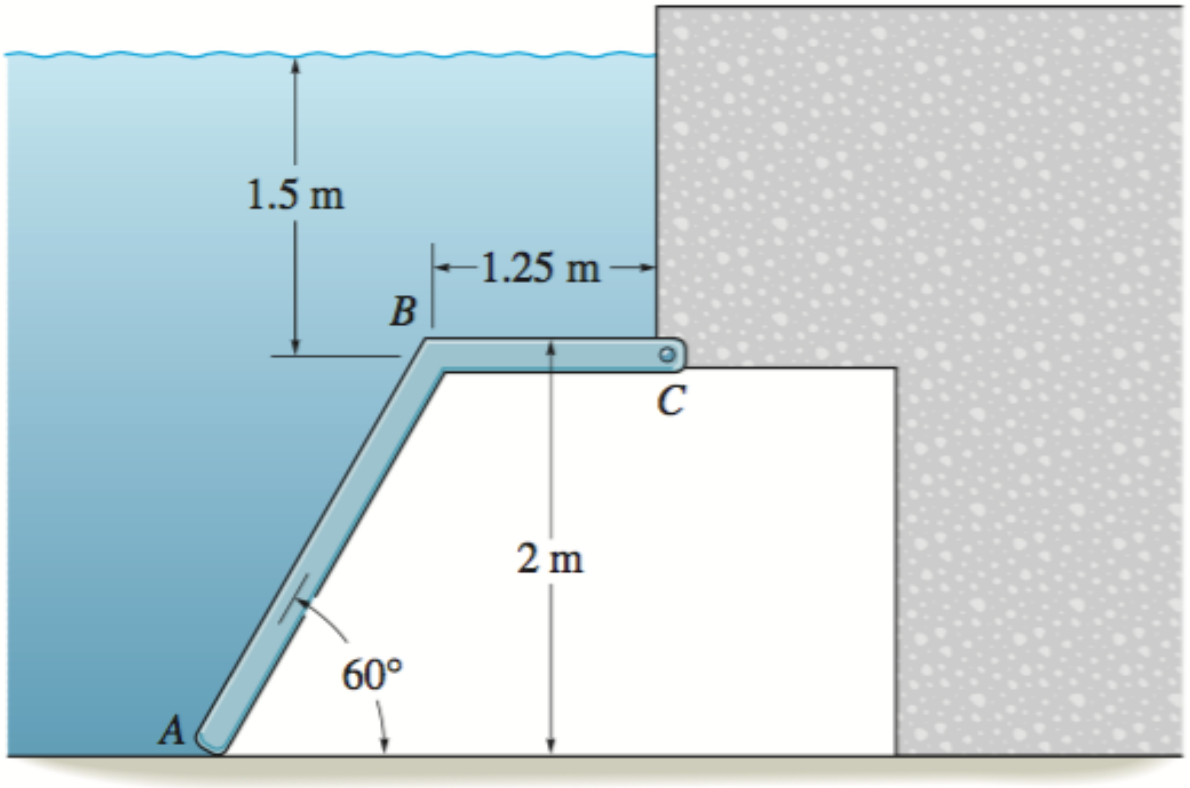
The factor of safety for tipping of the concrete dam is defined as the ratio of the stabilizing moment due to the dam's weight divided by the overturning moment about *O* due to the water pressure. Determine this factor if the concrete has a density of $\rho_{conc} = 2.5\ Mg/m^3$ and for water $\rho_{water} = 1\ Mg/m^3$.



Determine the magnitude of the resultant force acting on
on the 10-m wide dam due to hydrostatic pressure.
($\rho_{water} = 1\ Mg/m^3$)



Determine the magnitude of the resultant force acting on gate *ABC* due to hydrostatic pressure. The gate has a width of 1.5 m.
($\rho_{water} = 1\ Mg/m^3$)



When a rectangular block of wood of cross sectional area A, height h, and mass m is placed in a lake. How far below the surface z is the bottom of the block? ($\rho_{water} = 1\ Mg/m^3$)