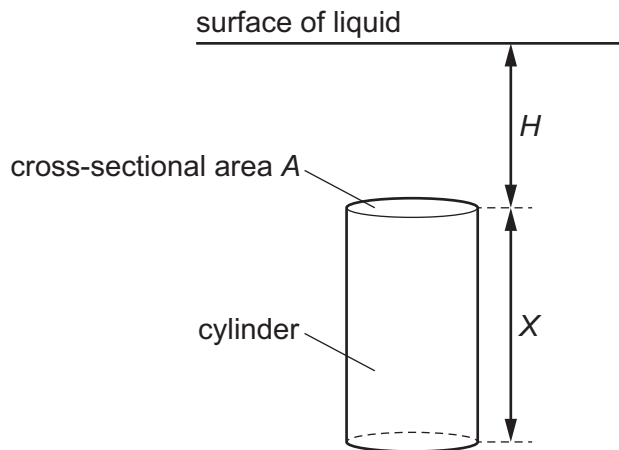


- 15** A solid cylinder of density  $\rho_C$ , cross-sectional area  $A$  and length  $X$  is submerged in a liquid of density  $\rho_L$ . The upper face of the cylinder is at a depth  $H$  below the surface of the liquid, as shown.



The acceleration of free fall is  $g$ .

Which expression gives the magnitude of the upthrust force acting on the cylinder?

- A**  $\rho_C AHg$       **B**  $\rho_C AXg$       **C**  $\rho_L AHg$       **D**  $\rho_L AXg$