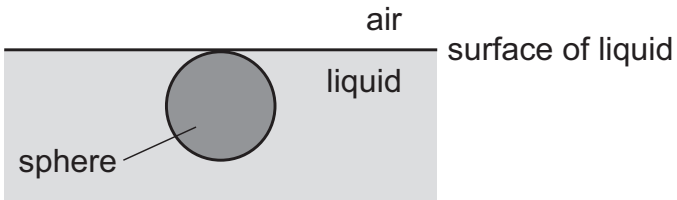
12 The diagram shows a stationary sphere that is just fully submerged in a liquid. The radius of the sphere is r and the density of the liquid is ρ. The acceleration of free fall is g.

The air exerts pressure P_A on the surface of the liquid.



What is the pressure at the lowest point of the sphere?

A $P_A + \frac{4}{3}\pi r^3 \rho g$

B $P_A - \frac{4}{3}\pi r^3 \rho g$

C $2r\rho g + P_A$

D $2r\rho g - P_A$