



Express the gravitational acceleration at an altitude  $h = R$ , where  $R$  is the radius of the earth, in terms of the gravitational acceleration at the surface of the earth,  $g$ .

- A)  $g_{(r=2R)} = g$ .
- B)  $g_{(r=2R)} = \frac{g}{2}$ .
- C)  $g_{(r=2R)} = \frac{g}{3}$ .
- D)  $g_{(r=2R)} = \frac{g}{4}$ .

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$$g = \frac{GM}{r^2},$$

$$g(r = 2R) = \frac{GM}{(2R)^2} = \frac{g}{4}.$$

Answer **D**