

**10** The escape speed of a nitrogen molecule at the Earth's surface is  $1.1 \times 10^4 \text{ m s}^{-1}$ .

What is the escape speed at a height of  $2 R_E$  above the Earth's surface, where  $R_E$  is the radius of the Earth?

- A**  $6.4 \times 10^3 \text{ m s}^{-1}$       **B**  $7.8 \times 10^3 \text{ m s}^{-1}$       **C**  $1.6 \times 10^4 \text{ m s}^{-1}$       **D**  $1.9 \times 10^4 \text{ m s}^{-1}$

**11** Which of the following statements about the acceleration of a particle moving in a circle is correct?