9   A satellite of mass 200 kg revolves around the Earth at a speed of 3.0 km s^{-1} at a distance 150 km above the surface of the Earth. What is the speed, in km s^{-1}, required to keep a satellite of twice this mass in the same orbit?

A   1.0   **B**   2.0   **C**   3.0   **D**   4.0