

- 13** A satellite orbits a planet at a distance  $2R$  from its centre. Its gravitational potential energy is  $-2.1\text{ MJ}$ .

Another identical satellite orbits the planet at a distance  $3R$  from its centre.

What is the sum of the kinetic energy and the gravitational potential energy of this second satellite?

- A**  $-0.70\text{ MJ}$       **B**  $-1.4\text{ MJ}$       **C**  $-2.1\text{ MJ}$       **D**  $-3.2\text{ MJ}$