

- 17 A satellite orbits a planet at a distance  $r$  from its centre. Its gravitational potential energy is  $-3.2 \text{ MJ}$ .

Another identical satellite orbits the planet at a distance  $2r$  from its centre.

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

- A**  $-0.40 \text{ MJ}$       **B**  $-0.80 \text{ MJ}$       **C**  $-1.6 \text{ MJ}$       **D**  $-6.4 \text{ MJ}$

- 18 A body moves with simple harmonic motion and makes  $n$  complete oscillations in one second.