

- 9** Earth has a radius of r . A satellite of mass m is in circular orbit around Earth, at a height r above the Earth and with a period T . The satellite is moved to a new orbit with height $3r$ above the Earth.

What is the new period in terms of T ?

A $\sqrt{2} T$

B $2\sqrt{2} T$

C $\sqrt{3} T$

D $3\sqrt{3} T$