

**8** A body of mass  $m$  moves in a horizontal circle of radius  $r$  at constant angular speed  $\omega$ .

What is the work done on the body by the centripetal force in one revolution?

**A** zero

**B**  $mr^2\omega^2$

**C**  $2mr^3\omega$

**D**  $4mr^2\omega^3$