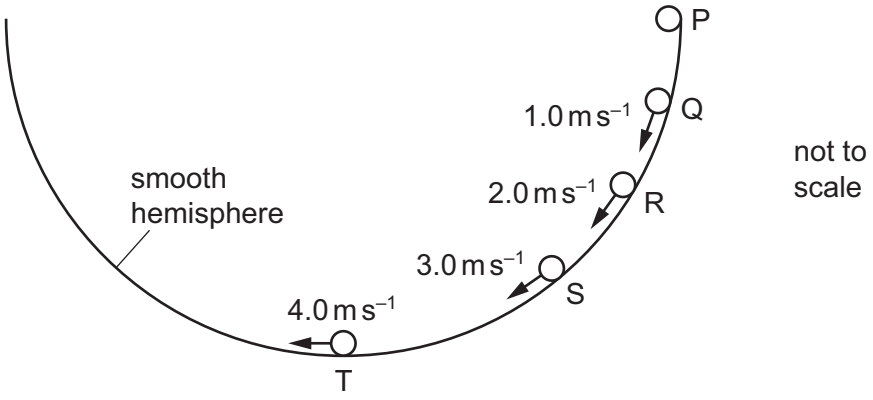
15 A small mass is placed at point P on the inside surface of a smooth hemisphere. It is then released from rest. When it reaches the lowest point T, its speed is $4.0\,m\,s^{-1}$.

The diagram (not to scale) shows the speed of the mass at other points Q, R and S as it slides down. Air resistance is negligible.



The mass loses potential energy E in falling from P to T.

At which point has the mass lost potential energy $\frac{E}{4}$?

A Q

B R

C S

D none of these

Space for working