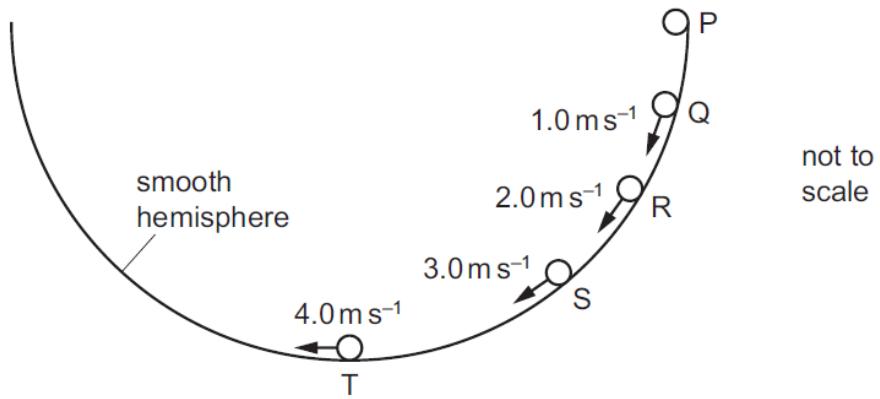


- 8** A small mass is placed at point P on the inner surface of a smooth hemisphere as shown in the diagram below. It has an initial gravitational potential energy E and is released from rest at point P. The mass has a speed of 4.0 m s^{-1} when it reaches the lowest point at T. Take the gravitational potential energy at T to be 0.

The diagram shows the speeds of the mass at points Q, R and S as it slides down.



Assuming air resistance is negligible, at which point does the mass possess 75% of its initial gravitational potential energy?

- A** Q **B** R **C** S **D** None of the points