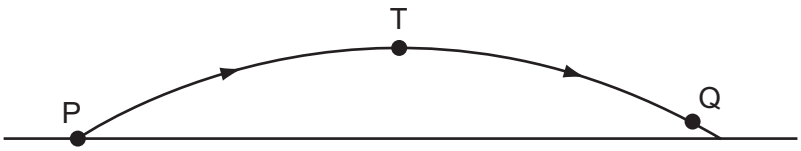
8 In the absence of air resistance, a stone is thrown from P and follows a parabolic path in which the highest point reached is T. The stone reaches point Q just before landing.



The vertical component of acceleration of the stone is

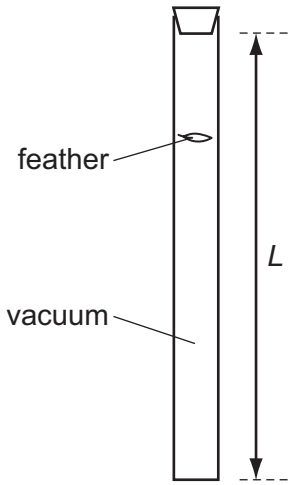
A zero at T.

B larger at T than at Q.

C larger at Q than at T.

D the same at Q as at T.

9 The diagram shows a laboratory experiment in which a feather falls from rest in a long evacuated vertical tube of length *L*.



The feather takes time *T* to fall from the top to the bottom of the tube.

How far will the feather have fallen from the top of the tube in time 0.50 *T*?

A 0.13 *L* **B** 0.25 *L* **C** 0.38 *L* **D** 0.50 *L*

Space for working