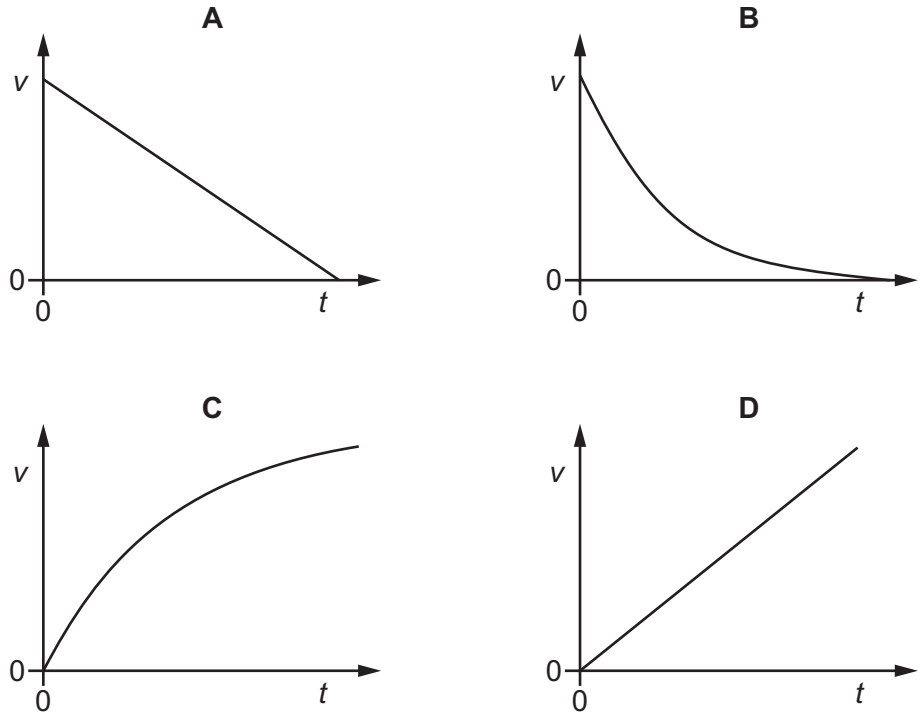
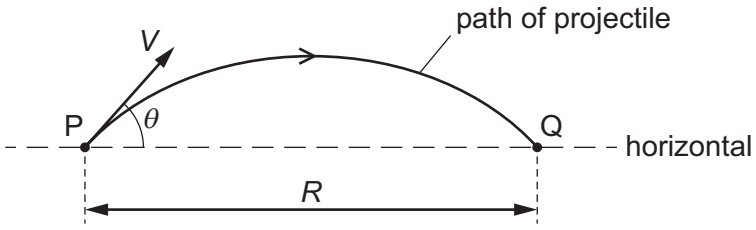
6 Which graph shows the variation with time t of the velocity v of an object falling vertically downwards in a vacuum?



7 A projectile is fired from point P with velocity V at an angle θ to the horizontal. It lands at point Q, a horizontal distance R from P. Air resistance is negligible.



The acceleration of free fall is g.

Which equation for R is correct?

A $R = \dfrac{V^2 \sin\theta \cos\theta}{g}$

B $R = \dfrac{2V^2 \sin\theta \cos\theta}{g}$

C $R = \dfrac{V^2 \sin\theta \cos\theta}{2g}$

D $R = \dfrac{V^2 g \sin\theta \cos\theta}{2}$