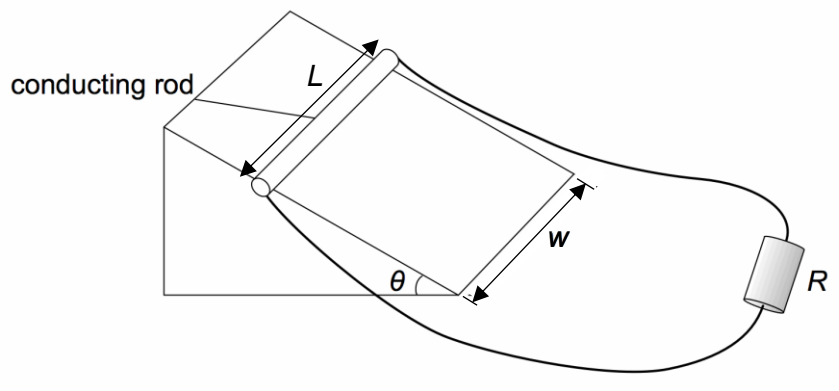
26 A conducting rod of length *L* and mass *m* is placed on a very long and smooth plane of width *w*. The plane makes an angle of θ to the horizontal. The rod is connected to a resistor of resistance *R* through light and flexible wires. The rod is released from rest at the top of the plane and moves in a uniform magnetic flux density *B* that is vertically downwards everywhere.



After time *t*, what is the magnitude of its terminal velocity?

A $\frac{mgR\tan\theta}{B^2w^2}$ **B** $\frac{mgR\tan\theta}{B^2L^2}$ **C** $\frac{mgR\tan\theta}{B^2w^2\cos\theta}$ **D** $\frac{mgR\tan\theta}{B^2L^2\cos\theta}$