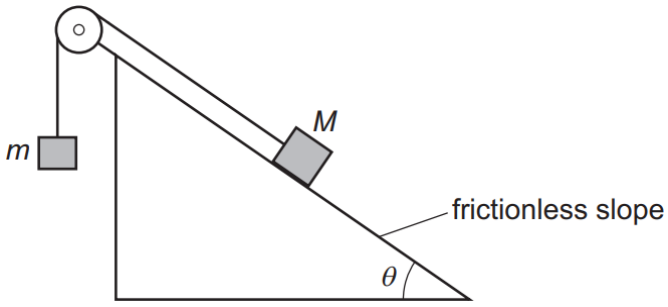
4 Two masses, M and m, are connected by an inextensible string which passes over a frictionless pulley. Mass M rests on a frictionless slope, as shown.



The slope is at an angle θ to the horizontal.

The two masses are initially held stationary and then released. Mass M accelerates down the slope.

Which expression must be correct?

A $\sin\theta < \frac{m}{M}$ **B** $\cos\theta < \frac{m}{M}$ **C** $\sin\theta > \frac{m}{M}$ **D** $\cos\theta > \frac{m}{M}$