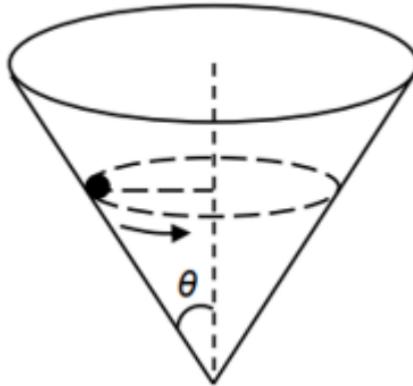


- 8 A small sphere is set into circular motion in a horizontal plane within a smooth cone as shown.



If the sphere is moving with a centripetal acceleration of  $0.8g$ , what is the angle  $\theta$ ?

A  $37^\circ$

B  $39^\circ$

C  $51^\circ$

D  $53^\circ$