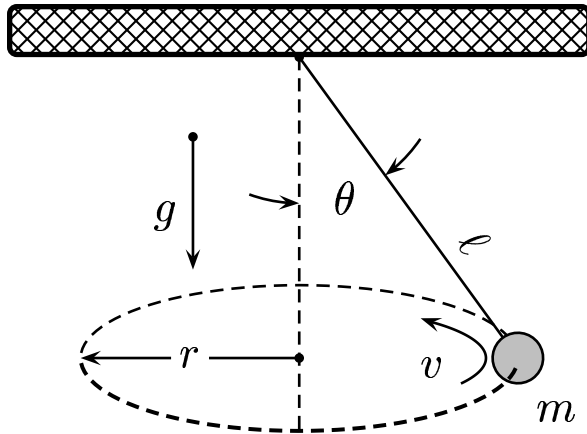


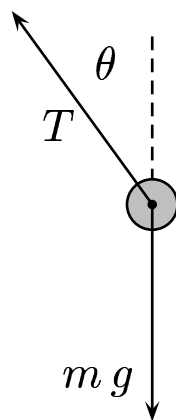
Consider a conical pendulum with mass m and the θ , with the centripetal acceleration a_c .



Choose the correct horizontal equation from the free-body diagram for the mass.

- A) $T \sin \theta = m a_c .$
- B) $T \cos \theta = m a_c .$
- C) $T \sin \theta = m g .$
- D) $T \cos \theta = m g .$

Explanation: Use the free-body diagram below.



From the sketch, for the x -equation, we have $T \sin \theta = m \frac{v^2}{r} = m a_c .$

Answer **A**.