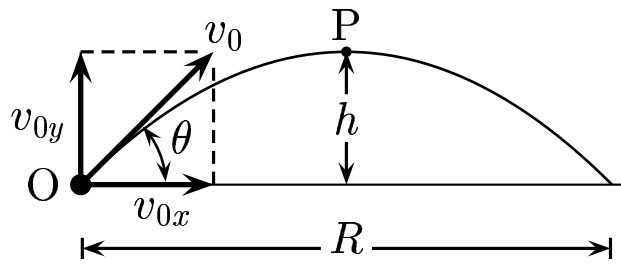


A projectile trajectory has a maximum height h , a range R . The mass is m and the initial speed v_0 . The angle between the initial velocity vector and the horizontal direction is θ .



Determine the torque τ at P with respect to O.

- A) $\tau = \frac{m g R}{2}$.
- B) $\tau = m g h$.
- C) $\tau = h m v_{0x} = h m v_0 \cos \theta$.

By inspection, at P the force is $m g$ and the level arm, that is the perpendicular distance from O to the force line, which is the vertical line through

P, is $\frac{R}{2}$.

Answer **A**.