

# Minimum K.E. Required to Complete the Loop

Use the results from questions 1. and 2. to calculate the minimum kinetic energy that the ball will need to complete the loop without losing contact with the track [Hint: At the highest point of the loop, how much of the total energy of the ball is P.E.? How much is K.E.?):

- a.)  $0.5mg(R - r)$       b.)  $mg(R - r)$   
c.)  $2mg(R - r)$       d.)  $2.5mg(R - r)$       e.)  $mgh$