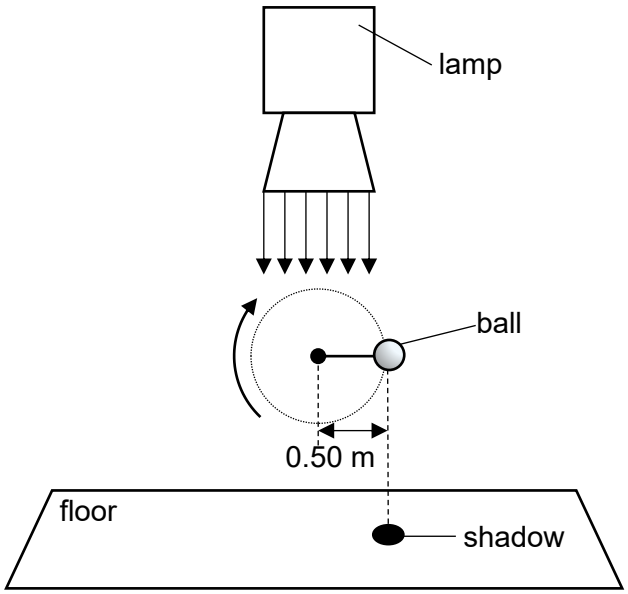
17 A ball is in uniform circular motion vertically with linear speed of 1.0 m s^{-1}. The radius of the motion is 0.50 m. A lamp shines from above and projects a shadow of the ball on the floor. The diagram below shows the relative position of the shadow at time t = 0 s.



What is the distance travelled by the shadow at t = 0.9 s?

A 0.99 m
B 0.61 m
C 0.49 m
D 0.11 m