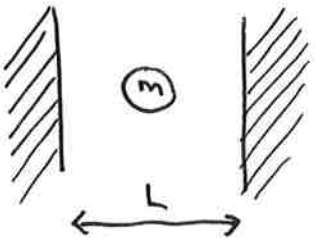
TL 5-23 (Sphere between 2 walls)



$m = 0.1\,kg$

$r = 0.01\,m$

$K = 2\,J$

$L = 0.5\,m$

a) What is prob. of finding sphere exactly midway between walls?

Zero probability (since no tolerance is given).

b) What about between 24.9 & 25.1 cm?

$\Delta x = 0.2\,cm$

well, the center of the ball is equally likely to be found anywhere ~~between~~ in the region of

width $0.5m - 0.02m = 0.48m$

so $\frac{0.2\,cm}{48\,cm} = 0.00416 = \boxed{0.4\%}$