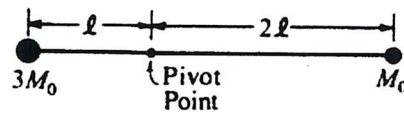


34. From the top of a 70-meter-high building, a 1-kilogram ball is thrown directly downward with an initial speed of 10 meters per second. If the ball reaches the ground with a speed of 30 meters per second, the energy lost to friction is most nearly

(A) 0 J
(B) 100 J
(C) 300 J
(D) 400 J
(E) 700 J



35. A light rigid rod with masses attached to its ends is pivoted about a horizontal axis as shown above. When released from rest in a horizontal orientation, the rod begins to rotate with an angular acceleration of magnitude

(A) $\frac{1}{7} \frac{g}{l}$
(B) $\frac{1}{5} \frac{g}{l}$
(C) $\frac{1}{4} \frac{g}{l}$
(D) $\frac{5}{7} \frac{g}{l}$
(E) $\frac{g}{l}$