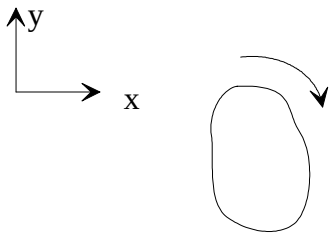
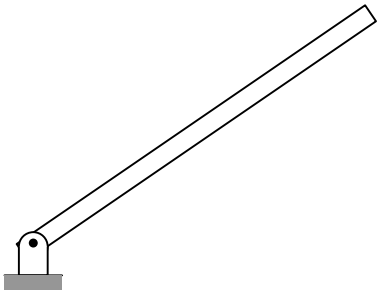
Quiz - Le 13 Name: _____

1) A rigid body is rotating at 3 rad/s clockwise. Express the angular velocity as a vector in terms of it's $\hat{i}$, $\hat{j}$ and $\hat{k}$ components.



2) The uniform bar shown below has a mass of 6 kg, a length of 1 m and a mass moment of inertia about its center of gravity of 0.5 kg-m^2. At the instant shown the bar has an angular velocity of 4 rad/s. What is the kinetic energy of the bar at this instant?



3) An 10 kg object rolls without slipping on a horizontal fixed surface. What is the:
   a) velocity of the point of contact

   b) work done by the friction force