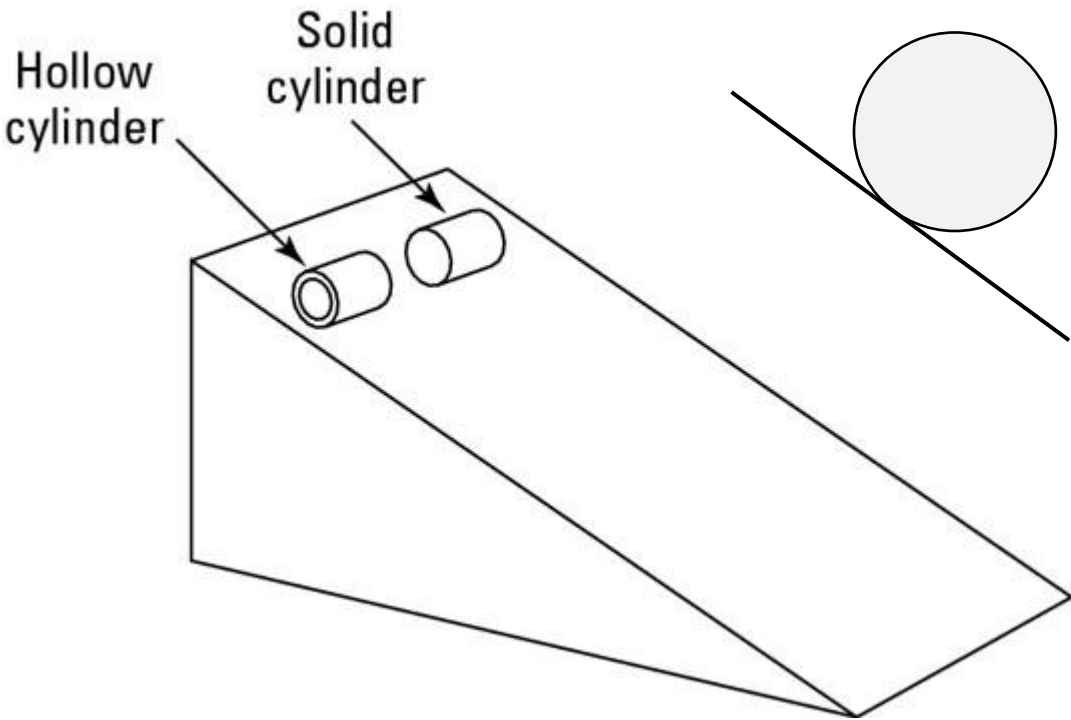


Rotational Mechanics II



Just considering the solid cylinder, explain what would be the effect and why of changing the radius and/or mass. You may use maths in your answer.

a) Increasing its radius?

b) Increasing its mass?

Two cylinders of equal masses and equal radii are rolled down a slope. Which will get the bottom first and why? Explain your answer in a **CLEAR, COHERENT, PARAGRAPH LENGTH REPSONSE**. You may use diagrams and/or basic equations in your answer.

MATHS:

Assume the usual symbols: mass m , radius r , vertical height, h , velocity v , derive from first principles the speed of each of the cylinders at the bottom of the slope as a function of the vertical height of the ramp.

Hollow cylinder	Solid cylinder

If the slope was frictionless, what would happen and why? Explain in as much detail as possible. (include the word “torque” in your answer.