

Solid Cylinder v/s Hollow Cylinder

If a solid cylinder ($I = (1/2)mr^2$) and a hollow cylinder ($I = mr^2$) are released from rest at the same instant from the top of a ramp (inclined at a certain angle to the floor), which, would you predict, will reach the bottom first?

- a.) The solid cylinder.
- b.) The hollow cylinder.
- c.) Both will reach the bottom at exactly the same time.
- d.) Depends on which cylinder has the greater mass.
- e.) Depends on which cylinder has the greater radius.