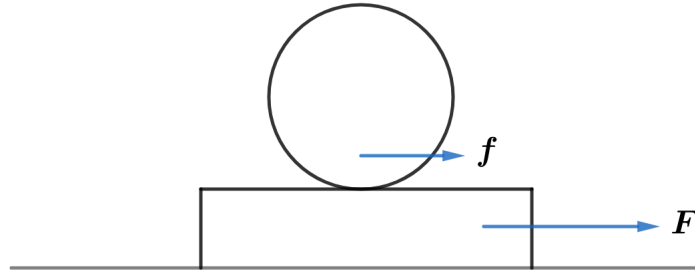# 2019A F=ma Exam: Problem 23

Kevin S. Huang

When force F is applied to the slab, friction will oppose relative motion between the sphere and slab, so f points to the right on the sphere.

The net force on the sphere points right so its center of mass accelerates to the right. Friction provides torque about the center so the sphere will rotate counterclockwise. Thus, the answer is $\boxed{D}$.