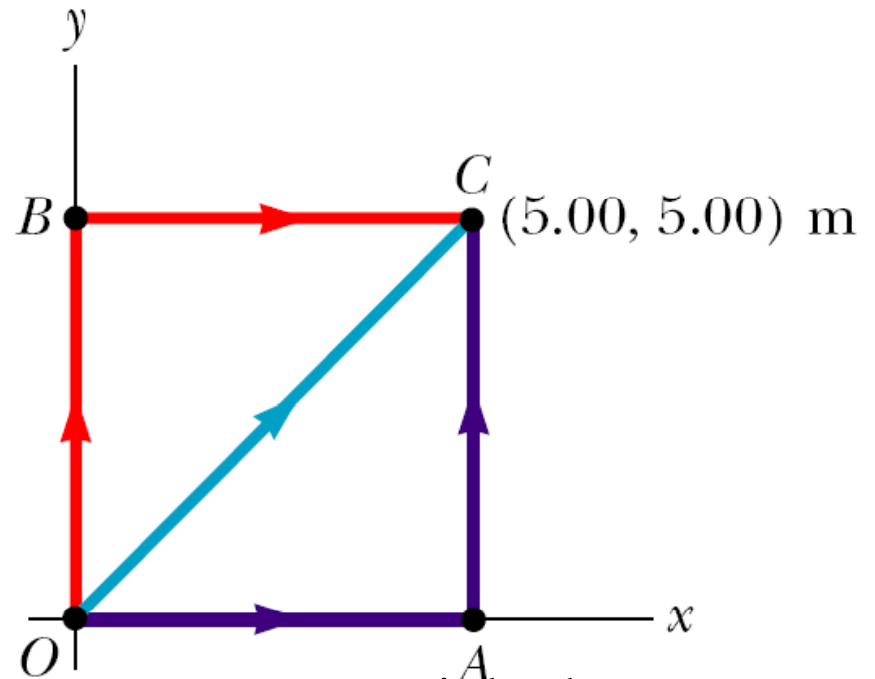# One Conservative Force?

(a) Suppose that a constant force acts on an object. The force does not vary with time, nor with position or the velocity of the object. Start with the general definition of work done by a force and show that the force is conservative

(b) As a special case, suppose that the force acts on a particle that moves from O to C in the figure below. Calculate the work done by that force if the particle moves along each one of the three paths OAC, OBC, and OC where C is (5.0, 5.0).

Another Conservative Force?

A 120 g object is attached to the bottom end of an unstressed spring. The spring is hanging vertically and has a force constant of 40.0 N/m. The object is dropped. (a) What is its maximum speed? (b) How far does it drop before coming to rest momentarily?