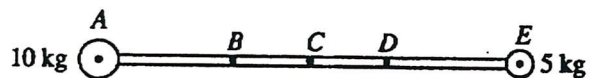


Questions 29-30



A 5-kilogram sphere is connected to a 10-kilogram sphere by a rigid rod of negligible mass, as shown above.

29. Which of the five lettered points represents the center of mass of the sphere-rod combination?

- (A) *A*
- (B) *B*
- (C) *C*
- (D) *D*
- (E) *E*

30. The sphere-rod combination can be pivoted about an axis that is perpendicular to the plane of the page and that passes through one of the five lettered points. Through which point should the axis pass for the moment of inertia of the sphere-rod combination about this axis to be greatest?

- (A) *A*
- (B) *B*
- (C) *C*
- (D) *D*
- (E) *E*

31. A small mass is released from rest at a very great distance from a larger stationary mass. Which of the following graphs best represents the gravitational potential energy U of the system of the two masses as a function of time t ?

