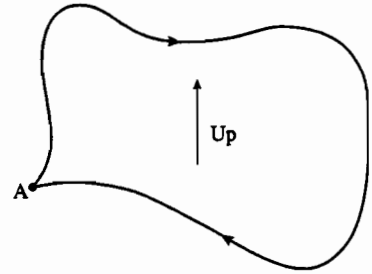


11.5 Force, Work, and Potential Energy

11.6 Finding Force from Potential Energy

15. A particle moves in a vertical plane along a *closed* path, starting at A and eventually returning to its starting point. How much work is done on the particle by gravity? Explain.



0 because displacement is zero

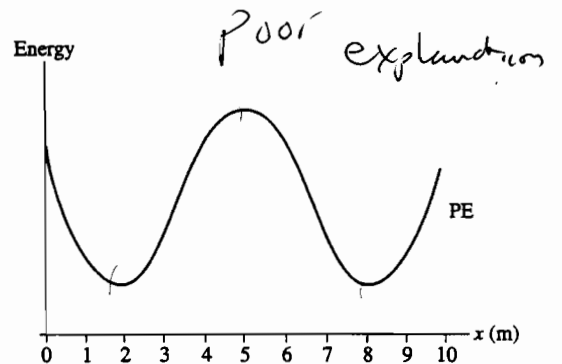
16. a. If the force on a particle at some point in space is zero, must its potential energy also be zero at that point? Explain.

-3 x yes because there is no acceleration. Potential energy involves a force.

b. If the potential energy of a particle at some point in space is zero, must the force on it also be zero at that point? Explain.

No because potential energy depends on height or the force of a spring

17. The graph shows the potential-energy curve of a particle moving along the x -axis under the influence of a conservative force.



a. In which intervals of x is the force on the particle to the right?

(0, 2) & (5, 8)

b. In which intervals of x is the force on the particle to the left?

(2, 5) (8, 10)

c. At what value or values of x is the magnitude of the force a maximum?

-1 x $\frac{1}{2}$ & 6.5 (3.5 & 10 too)