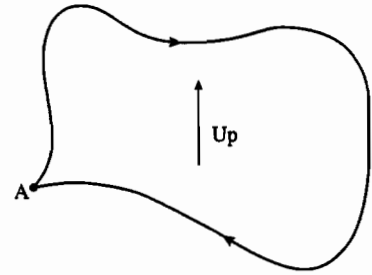


11.5 Force, Work, and Potential Energy

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.

The net work done by gravity is zero because the particle ended in the same place it started.



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.

When the net force is zero there can still be gravitational potential energy. why

- 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 b/c there can be a force acting on it, having nothing to do w/ potential energy.

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?

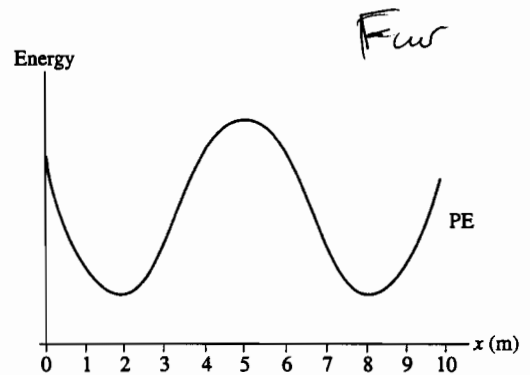
$(0, 2) \cup (5, 8)$

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

$(2, 5) \cup (8, 10)$

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

\times $x=2, x=8$



-2