Please show all your work in order to receive partial credit.

1. Each of the graphs below shows the position of an object moving along the \( x \)-axis as a function of time \( t \) for \( 0 \leq t \leq 4 \). The vertical scales of the graphs are the same.

   During this time interval, which graph depicts an object that has
   
   (a) constant velocity?
   
   (b) zero acceleration?
   
   (c) average velocity equal to zero?
   
   (d) negative acceleration over the entire interval?
   
   (e) greatest initial velocity?
   
   (f) negative velocity?

2. Sketch the graph of a function \( f \) whose first and second derivatives are everywhere negative.

3. Sketch the graph of a function \( f \) whose first derivative is everywhere positive and whose second deriva-
tive is positive for some \( x \)-values and negative for other \( x \)-values.