**9.*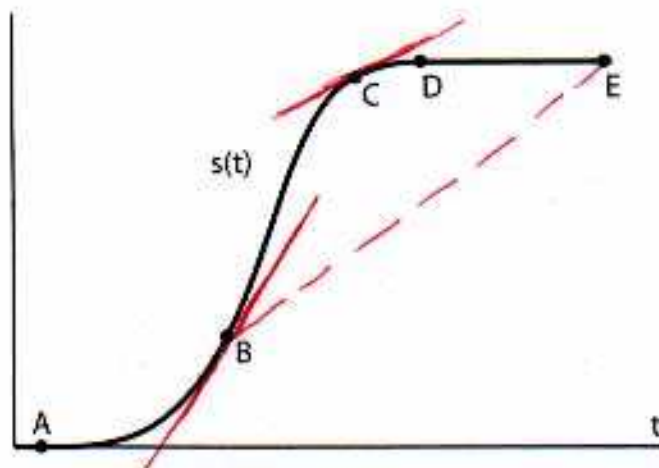* (9 points) The following graph shows the distance $s(t)$ travelled along a highway by a car driving away from a city. From the shape of the graph, explain answers to the questions.



(a) Was the car going faster at the time corresponding to point $B$ or the time corresponding to point $C$? Explain. *The car was going faster at the time corresponding to point B because the slope of the tangent to the curve is more positive at point B than at point C. Since the curve represents distance, the slope gives the rate of change of distance, or velocity.*

(b) Was the average velocity of the car for the time between points B and E greater than or less than the car's instantaneous velocity at the time corresponding to the point $B$? Explain.

*The average rate of change (or average velocity) between points B & E is given by the slope of the dashed line between B & E. The slope of this line is less than the line tangent to the curve at B. Thus,*

(c) What was the car doing during the times corresponding to points between $D$ and $E$? Explain.

*the car's velocity at the time indicated by point B is greater.*

*Between points D & E on the graph, the function is constant and the slope of the curve between these points is zero. Thus, for the times corresponding to the points between D & E, the car was stopped.*