

Velocity Problem

A particle is moving on a straight line. Suppose the velocity of the particle at a particular time t_0 is positive.

Claim: There is some interval of time around t_0 during which:

- All of the particle's positions after time t_0 are to the right of its position at t_0 .
- All of the particle's positions before time t_0 are to the left of its position at t_0 .

Is the claim true? Why or why not?