

In driving from New York to Boston, your position function given in miles from New York is described by the function

$$f(t) = \frac{5t^3}{3} - 25t^2 + 120t$$

where t is the number of hours since the trip began. It takes you 8 hours to get to Boston.

- (a) Find your velocity at time $t = 1/2$ hour
- (b) Do you ever backtrack during the trip?