In Class Exercises (ICE) - 10/20/00

In Australia, ceratin beverages are sold in two liter bottles known as "Darwin Stubbies." An enthusiastic but inexperienced youth agrees to drain a Darwin Stubby by puncturing the bottom of the bottle and letting the beverage run into his mouth. The volume of beverage left in the bottle after 't' seconds is given by:

$$V(t) = 1000 + (10 - t)^3,$$

where the volume is measured in milliliters (ml).

- ***How much beverage is in the bottle initially?***

- ***How fast is the bottle draining at t = 5 seconds?***

- ***How fast does beverage drain out of the bottle, on average, during the first 10 seconds?***

- ***Sketch a graph showing volume versus time and show the two speeds that you have calculated on the graph.***