

36. The position of an object is given by  $x = bt^3$ , where  $x$  is in meters,  $t$  is in seconds, and where the constant  $b$  is  $1.5 \text{ m/s}^3$ . Determine (a) the instantaneous velocity and (b) the instantaneous acceleration at the end of 2.5 s. Find (c) the average velocity and (d) the average acceleration during the first 2.5 s.