Velocity, speed, and acceleration

3.6.1

A particle is moving along the x-axis so that its position at time $t \geq 0$ seconds is $x(t) = 5t - t^2$ meters.

(a) What are the velocity and the acceleration of the particle at any time?

(b) What is the largest x coordinate the particle ever reaches? At what time?

(c) Is the particle moving to the left or to the right at $t = 1$ s? At $t = 3$ s?

(d) Is the particle speeding up or slowing down at $t = 1$ s? At $t = 3$ s?