Quiz 10.2B Name_____

1. The position vector s(t) of a particle moving in the plane is given.

$s(t) = \langle 2t^2 + 1\,, \ln(3t + 4\rangle$ (1, 1)

a) Find the velocity vector of the particle at time t = 1.

b) Find the speed of the particle at time t = 1.

c) Find the acceleration vector of the particle at time t = 1.

2. The velocity function v(t) of a particle moving in the plane is given, along with the position of the particle at time t = 0, which is (1, 2).

$$v(t) = \left\langle \frac{1}{t^2 + 1}, \frac{1}{t + 1} \right\rangle$$

a) Find the position vector of the particle at time t = 3.

b) Find the distance the particle travels from t = 0 and t =3.