Chain Rule Examples

1. (Basically this is example 1 from chapter 3.4.) The length L of a metal rod depends on temperature such that the length increases by 2.5 cm for every degree increase in temperature. If the temperature is increasing at 4^o per hour, how fast is the length of the metal rod increasing?

2. A the radius of a circular oil slick is a function of time: $r = 3t^2$. How fast is the the area of the circle increasing?