Name: Section: 5   6   9   10

1. Solve the initial value problem:

$$2y'\sqrt{9 - x^2} = y^2 + 1$$

2. Newton's law of cooling states

$$\frac{dT}{dt} = k(T - T_s),$$

where T is the temperaure of an object, T_s is the temperature of its surroundings, and k is a constant.

   (a) Solve this ODE.

   (b) A cup of tea starts at $210°F$ in a room at $71°F$. What is the temperature after 10 minutes?