1. (Textbook, 7th e, chapter 6, question 2)

In this chapter we saw that the steady-state rate of unemployment is \( U/L = s/(s + f) \). Suppose that the unemployment rate does not begin at this level. Show that unemployment will evolve over time and reach this steady state. (Hint: Express the change in the number of unemployment as a function of \( s \), \( f \), and \( U \). Then show that if unemployment is above the natural rate, unemployment falls, and if unemployment is below the natural rate, unemployment rises.)

2. (Textbook, 7th e, chapter 6, question 3)

The residents of a certain dormitory have collected the following data: People who live in the dorm can be classified as either involved in a relationship or uninvolved. Among involved people, 10 percent experience a breakup of their relationship every month. Among uninvolved people, 5 percent will enter into a relationship every month. What is the steady-state fraction of residents who are uninvolved?

3. (Textbook, 7th e, chapter 6, question 4)

Suppose that Congress passes legislation making it more difficult for firms to fire workers. If this legislation reduces the rate of job separation without affecting the rate of job finding, how would the natural rate of unemployment change? Do you think it is plausible that the legislation would not affect the rate of job finding? Why or Why not?