1. a. Suppose a government decides to reduce spending and (lump-sum) income taxes by the same amount. Using the long-run model of the economy developed in Chapter 3, graphically illustrate the impact of the equal reductions in spending and taxes. Be sure to label: i. the axes; ii. the curves; iii. the initial equilibrium values; iv. the direction curves shift; and v. the terminal equilibrium values.
   b. State in words what happens to: i. the real interest rate; ii. national saving; iii. investment; iv. consumption; and v. output.

2. A competitive, profit-maximizing firm hires labor until the:
A) marginal product of labor equals the wage.
B) price of output multiplied by the marginal product of labor equals the wage.
C) real wage equals the real rental price of capital.
D) wage equals the rental price of capital.

3. The panel of economists appointed by the Senate Finance Committee estimates that the CPI _____ inflation by approximately _____ percentage point(s) per year.
A) overestimates; 1
B) overestimates; 10
C) underestimates; 1
D) underestimates; 10

4. Assume that the consumption function is given by $C = 200 + 0.7(Y - T)$, the tax function is given by $T = 100 + t_1 Y$, and $Y = 50K^{0.5}L^{0.5}$, where $K = 100$ and $L = 100$. If t_1 increases from 0.2 to 0.25, then consumption decreases by:
A) 70.
B) 140.
C) 175.
D) 250.

5. The circular flow model shows that households use income for:
A) consumption, saving, and factor payments.
B) consumption, taxes, and factor payments.
C) taxes, saving, and factor payments.
D) consumption, taxes, and saving.

6. According to the model developed in Chapter 3, when government spending increases and taxes increase by an equal amount:

A) consumption and investment both increase.
B) consumption and investment both decrease.
C) consumption increases and investment decreases.
D) consumption decreases and investment increases.

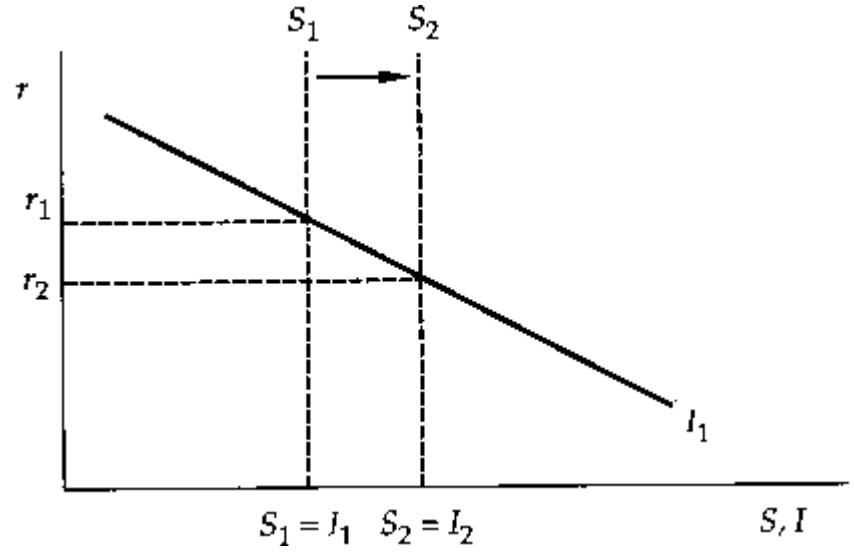
7. Assume that GDP (Y) is 5,000. Consumption (C) is given by the equation $C = 1{,}000 + 0.3(Y - T)$. Investment (I) is given by the equation $I = 1{,}500 - 50r$, where r is the real interest rate in percent. Taxes (T) are 1,000 and government spending (G) is 1,500.
   a. What are the equilibrium values of C, I, and r?
   b. What are the values of private saving, public saving, and national saving?
   c. Now assume there is a technological innovation that makes business want to invest more. It raises the investment equation to $I = 2{,}000 - 50r$. What are the new equilibrium values of C, I, and r?
   d. What are the new values of private saving, public saving, and national saving?

8. Assume that equilibrium GDP (Y) is 5,000. Consumption is given by the equation $C = 500 + 0.6(Y - T)$. Taxes (T) are equal to 1,000. Government spending is 600. In this case, equilibrium investment is:

A) 600.
B) 1,100.
C) 1,500.
D) 2,200.

Answer Key

1. a.



   b. i. real interest rate decreases
   ii. national saving increases
   iii. investment increases
   iv. consumption increases
   v. output is unchanged, fixed because it is determined by the factors of production
2. B
3. A
4. C
5. D
6. B
7. a. 2,200; 1,300; 4 percent b. 1,800; -500; 1,300 c. 2,200; 1,300; 14 percent d. 1,800; -500; 1,300
8. C