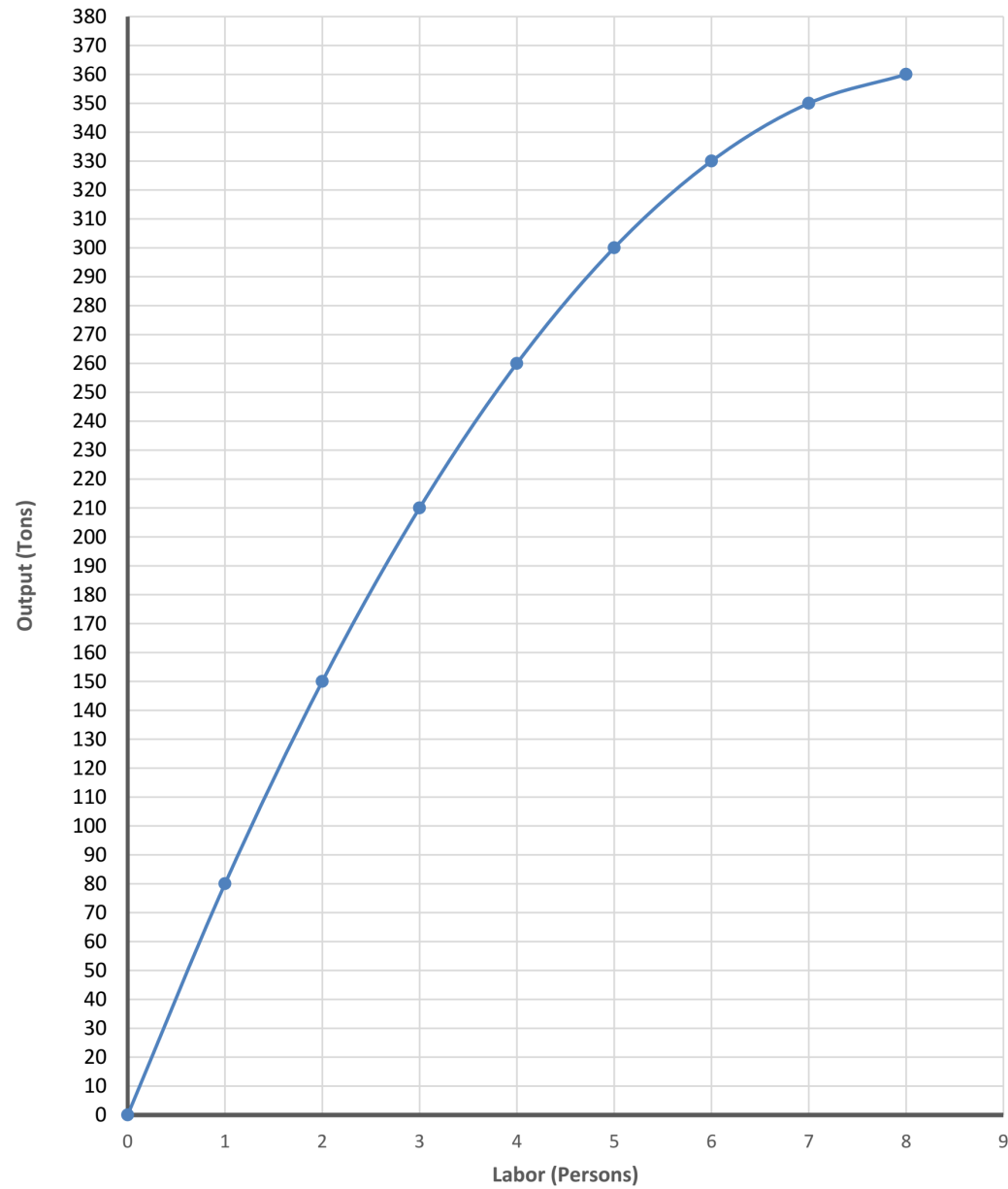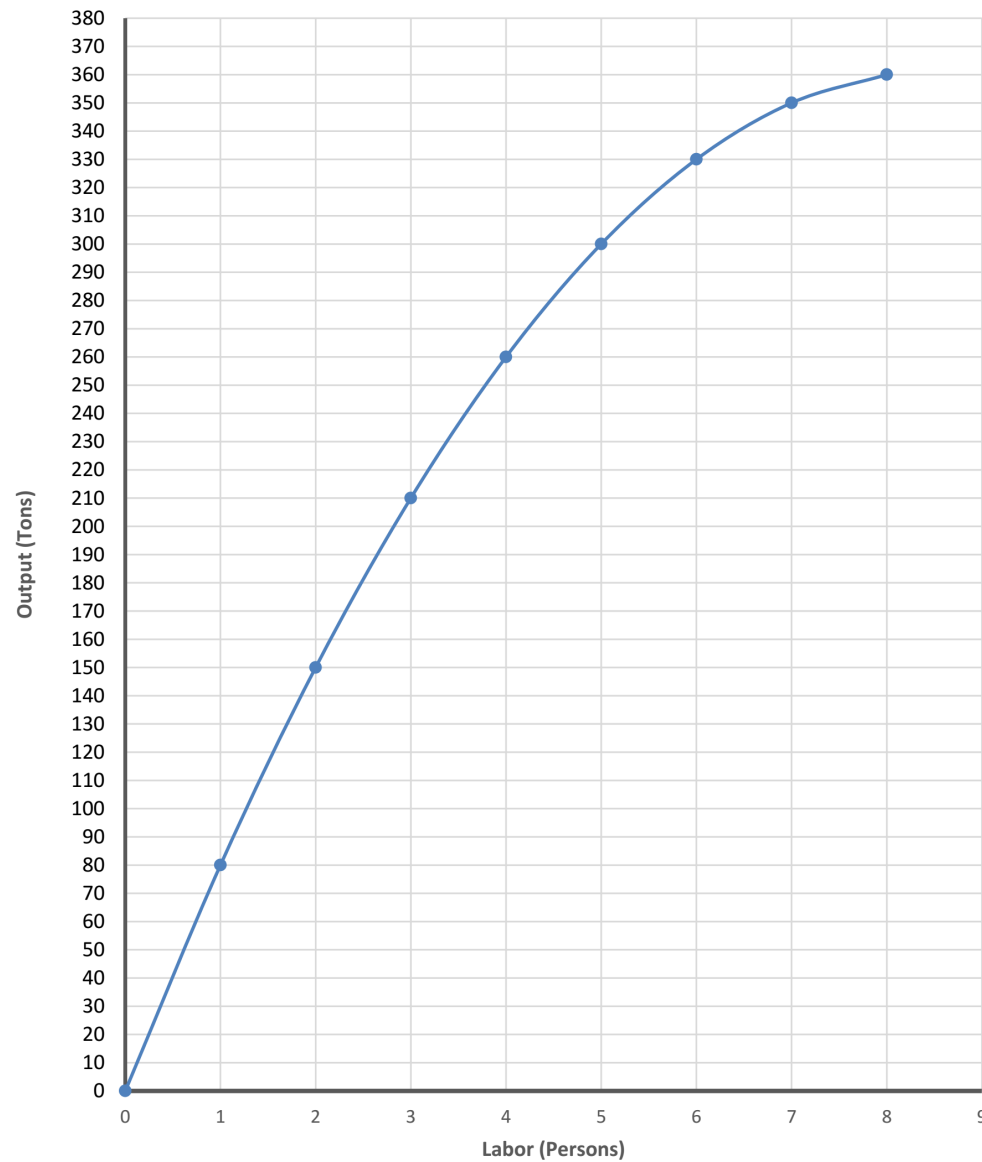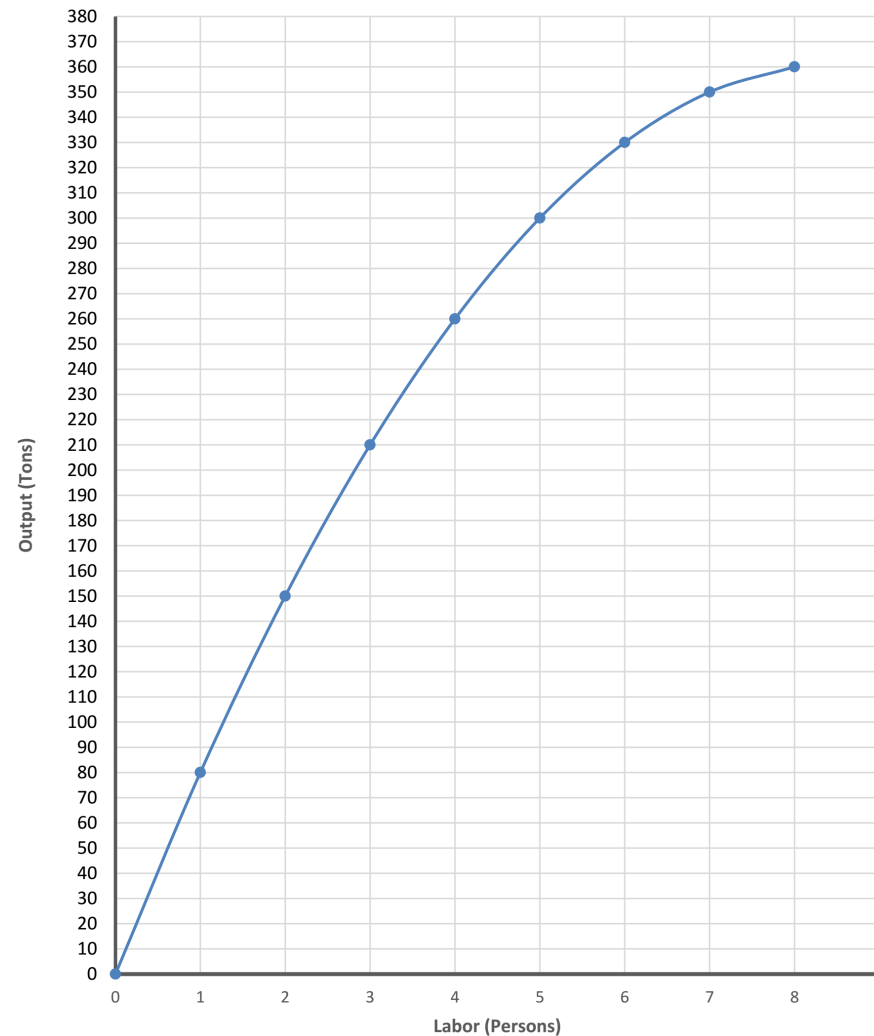## Problem 1.

The marginal product of the sixth worker is how many tons of the product?
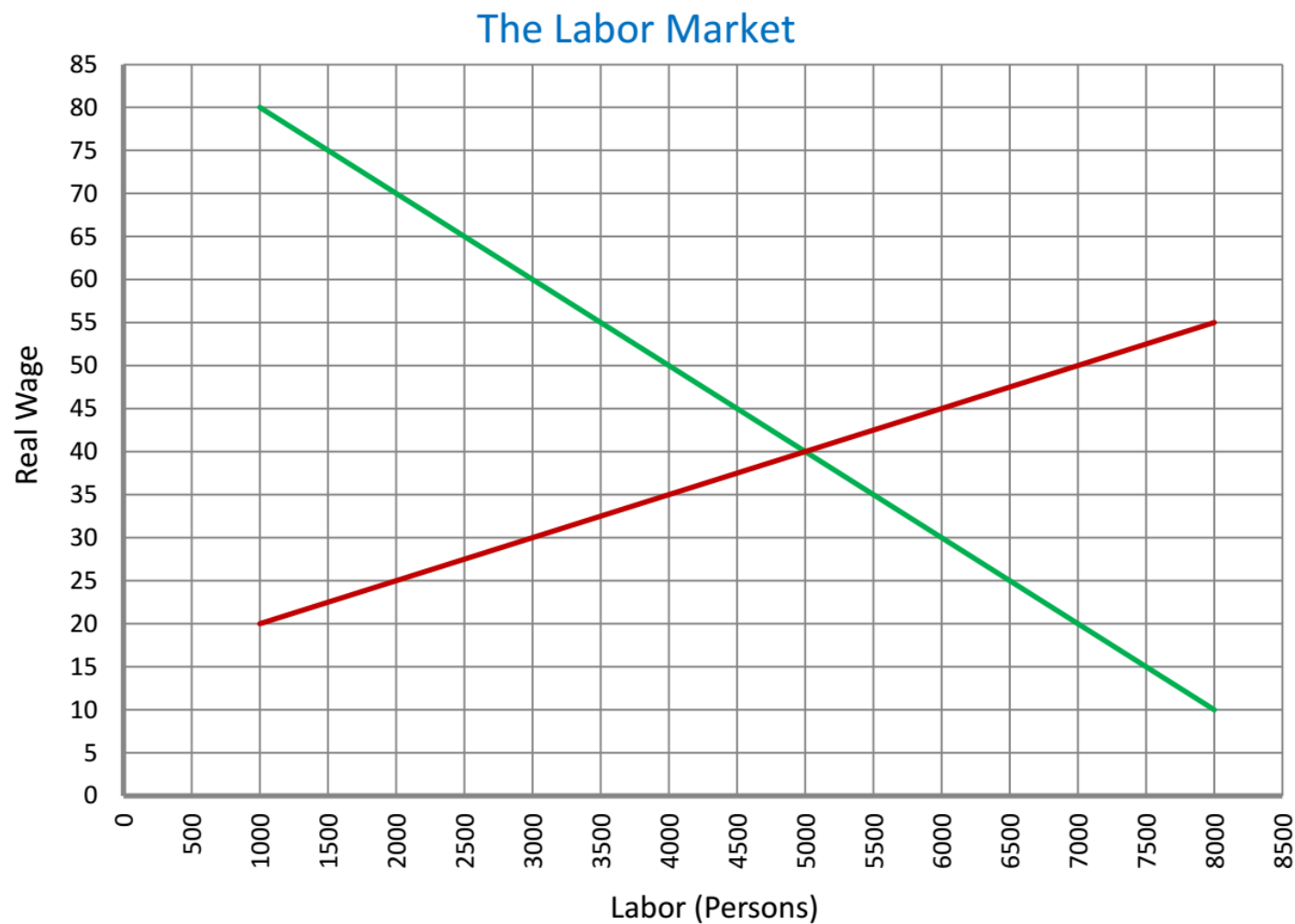
Problem 2.

If the real wage is 50 units, the firm will want to employ how many workers (using the marginal productivity rule discussed in the class)?
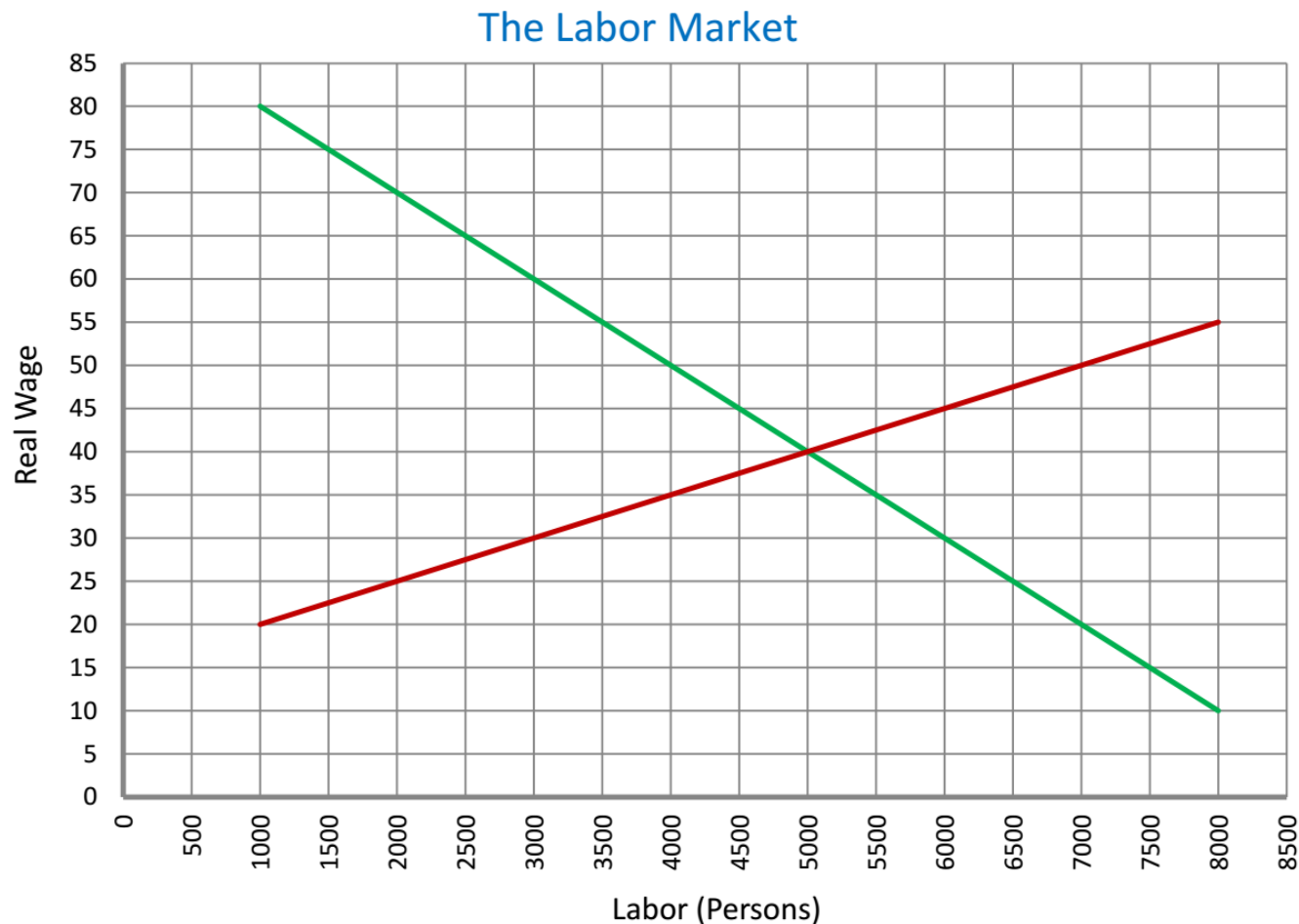
Problem 3.

Suppose that due to a technological advance, the productivity of labor increases so that the marginal product of each and every worker increases by 30 units. The real wage is still 50 units. How many workers will the firm now hire to maximize its profit? If the firm employs this many workers, it will be able to produce how many tons of the product?

Problem 4.

The Labor Market

In this country, if the real wage equaled 50 units, there would be how many jobs available? How many people would be willing and able to work?

Problem 5.

In this country, the real wage to bring about full employment is how many units? At this equilibrium real wage, how many workers will be employed? What will potential GDP be? (There's another chart for the GDP part that I couldn't fit here.)

Problem 6.

The Labor Market

Real Wage / Labor (Persons)
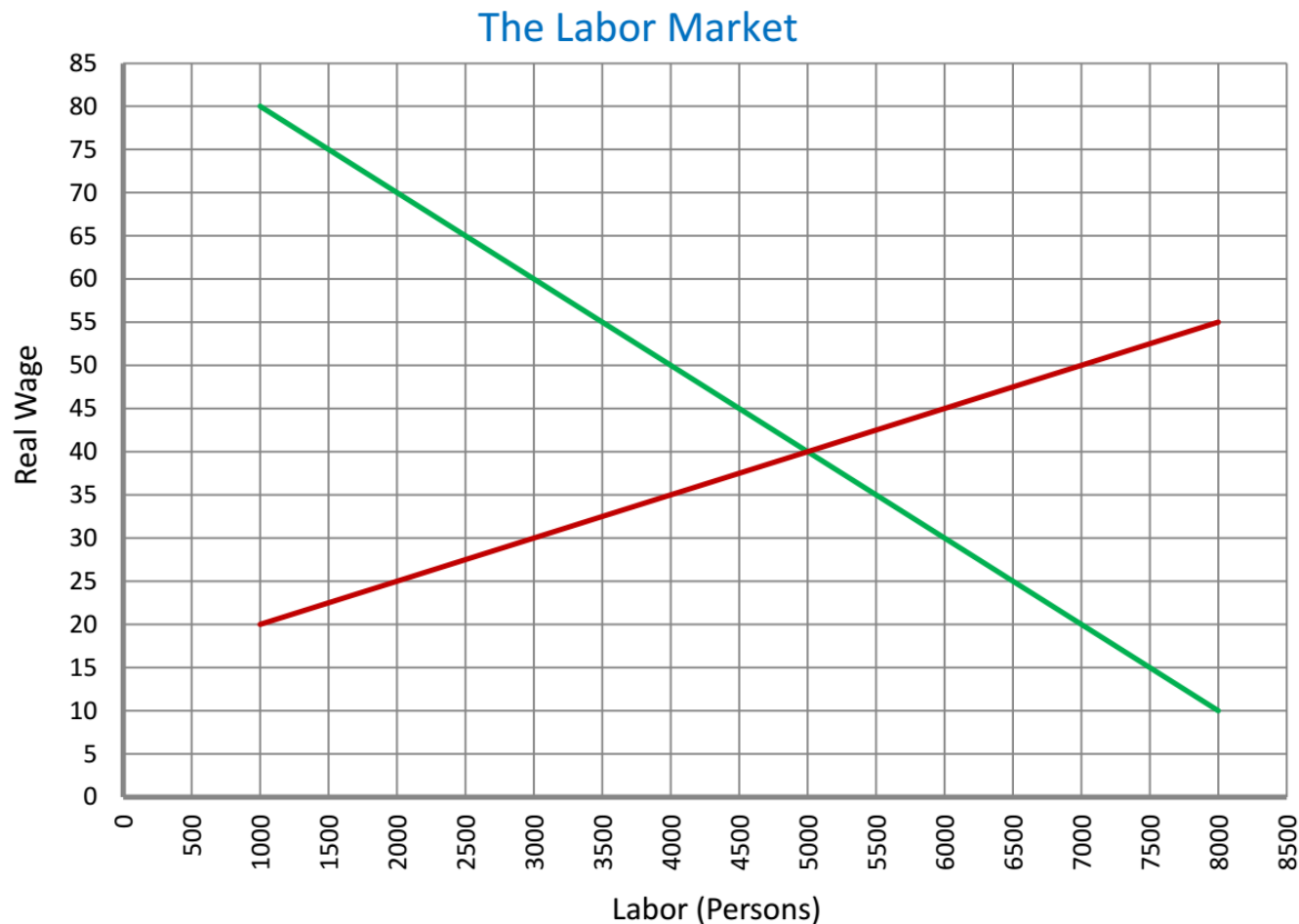
Assume that the market is in equilibrium (we have full employment). Assume also that currently the price level is $P = 200$. If the price level increases by 15%, the equilibrium nominal wage will increase from what to what?

Problem 7. Suppose that due to an increase in labor productivity, MPL increases by 30 units for every worker. At the same time, supply of labor increases by 1,500 workers due to an increase in labor force participation rate. As a result of these labor-market developments, the equilibrium real wage will equal how many units, and the equilibrium employment will equal how many workers?

Problem 8. Assume that between 1950 and 2015 the employment level of low-skilled workers has decreased. How can you figure out whether this reduction is predominantly due to a reduction in demand or supply?

True or False. The answer is, if during the same time period the real wage had also decreased, then the reduction in employment must have been mainly due to a reduction in supply. Otherwise, it must have been predominantly due to a reduction in demand.

Problem 9.   Suppose that in a country (not necessarily the United States) both employment and real wage have increased over the past many decades. What can you claim has happened in the labor market *for sure* over this period?

(a) Demand for labor has increased but supply has remained unchanged.

(b) Demand for labor has increased but supply has decreased, but the reduction in supply has been smaller than the increase in demand.

(c) Demand for labor has increased so has the supply, but the increase in supply has been smaller than the increase in demand.

(d) Demand for labor has increased. Supply may have increased or decreased, but the change in supply (whether increase or decrease) has been smaller than the increase in demand.

Problem 10. *True or False.* According to the report by the President Obama's Council of Economic Advisors, the increase in the real wage inequality between unskilled and skilled workers over the last sixty years has been mainly the result of automation and globalization