Problem 1. The supply of labor is the same thing as

(a) the total number of jobs available in the economy

(b) the labor force

(c) the number of vacant jobs in the economy

(d) the nubmer of jobs firms offer to households

(e) none of the above

Answer 1: b. Those who are willing and able to work—the labor force—want to supply their labor in order to earn a wage.

Problem 2. At the macroeconomic level, demand for labor is

(a) the total number of filled and unfilled jobs available

(b) the total number of unfilled jobs available

(c) the total number of people who have jobs

(d) the total number of people who demand jobs from business firms

(e) none of the above

Answer 2: a. Firms demand labor since they need workers in order to actually produce stuff. The way they demand labor is through employment, i.e. firms want to hire a certain number of people to fill in job vacancies. Some of those vacancies will be filled, some won't.

Problem 3. In the labor market, the **substitution effect** refers to the notion that when the real wage increases,

(a) the opportunity cost of labor increases and, therefore, workers work less

(b) the opportunity cost of leisure increases and, therefore, workers work more

(c) workers feel they are richer and, therefore, they consume more and save less

(d) workers feel they are richer and, therefore, they save more and consume less

(e) none of the above

Answer 3. When the real wage increases, it means that working now gives more of a benefit to workers. So, compared to leisure, working is relatively more attractive than it was before. The substitution effect says that since working is now relatively more attractive than leisure, people will choose to work more—they will substitute their time away from leisure and into work. Another way of stating this is that the opportunity cost of leisure increases, so people want less of it.

This implies an upward sloping labor supply curve.

Problem 4. In the labor market, the **income effect** indicates that

(a) when the real wage increases, workers' income increases and, therefore, they save more

(b) when the real wage increases, workers need to work fewer hours to earn the same income as before

(c) when the real wage increases, workers need to work fewer hours to earn the same income as before, so they work less

(d) when the real wage increases, workers' income increases, and therefore they increase their demand for goods and services

(e) none of the above

Answer 4: c. Pretty self explanatory. If you earn a higher wage, then you make the same amount of money you did before by working fewer hours. So in a sense you have an incentive to work fewer hours—you can still pay the bills, but now you can spend a few extra hours each day playing Pokemon Go. This is the income effect.

This implies a downward sloping labor supply curve.

The substitution effect appears to dominate the income effect, so an increase in the real wage causes an increase in the quantity of labor supplied, i.e. an upward sloping labor supply curve.

Problem 5. Which of the following is correct?

(a) supply of labor = labor force participation rate × labor force

(b) supply of labor = labor force participation rate × employment

(c) supply of labor = labor force participation rate × (employed + unemployed)

(d) supply of labor = labor force participation rate × population

(e) none of the above

Answer 5: d. This is basically just the definition of the labor force participation rate, i.e. the percentage of people in the population who are able and willing to work.

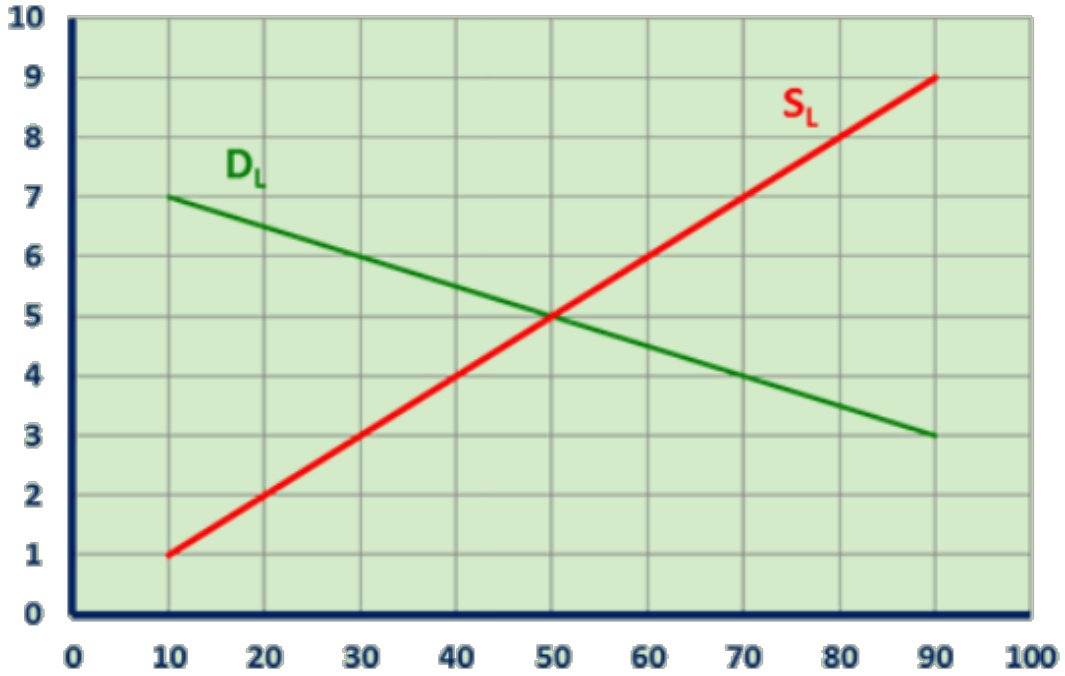
Problem 6.

Real Wage	Labor Demand	Labor Supply
6	700	300
8	600	400
10	500	500
12	400	600
14	300	700

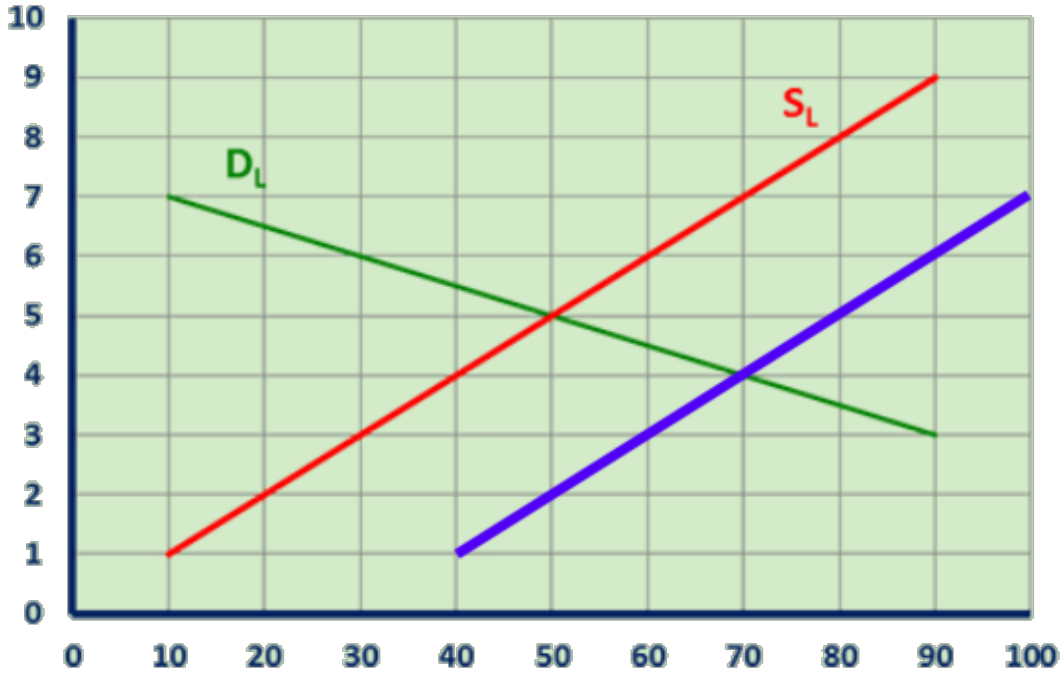
The price level is $P = \$30$. What is the nominal wage?

Answer 6. The market is in equilibrium when labor demand equals labor supply. In this case, at $L = 500$, which means the real wage must be 10. Since the price level is 30, that means the nominal wage must be $30 \times 10 = \$300$.

Problem 7. The figure shows the labor market for a country, with labor measured in workers. The nominal wage is \$20 and the price level is \$4. If the supply of labor increases by 30 units, and the price level remains unchanged, what will be the new equilibrium nominal wage?

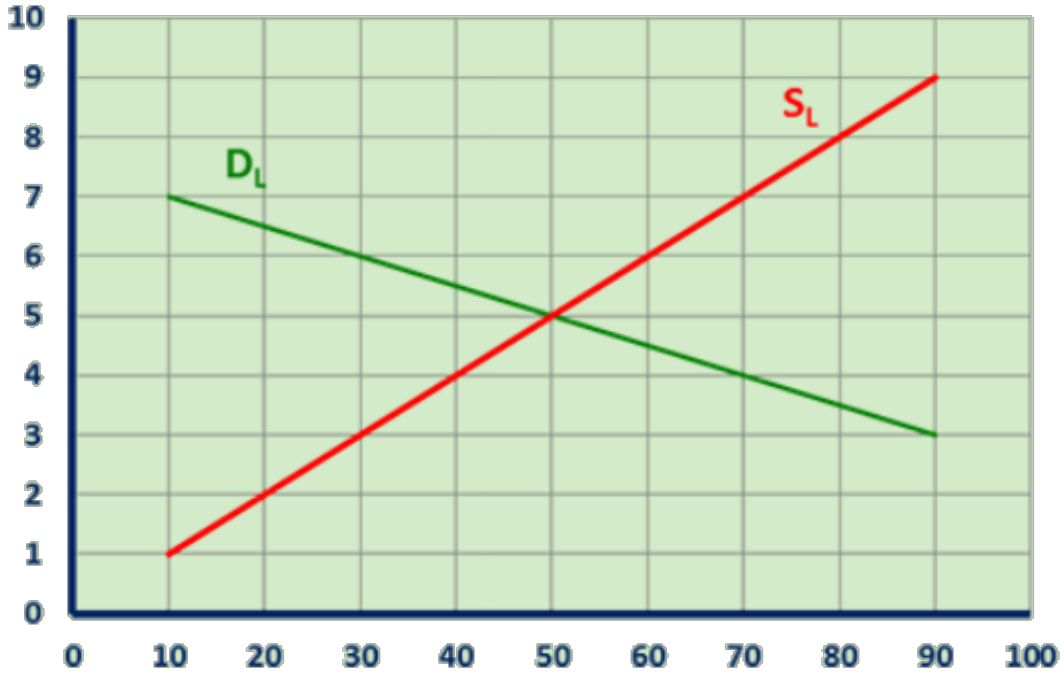


Answer 7.



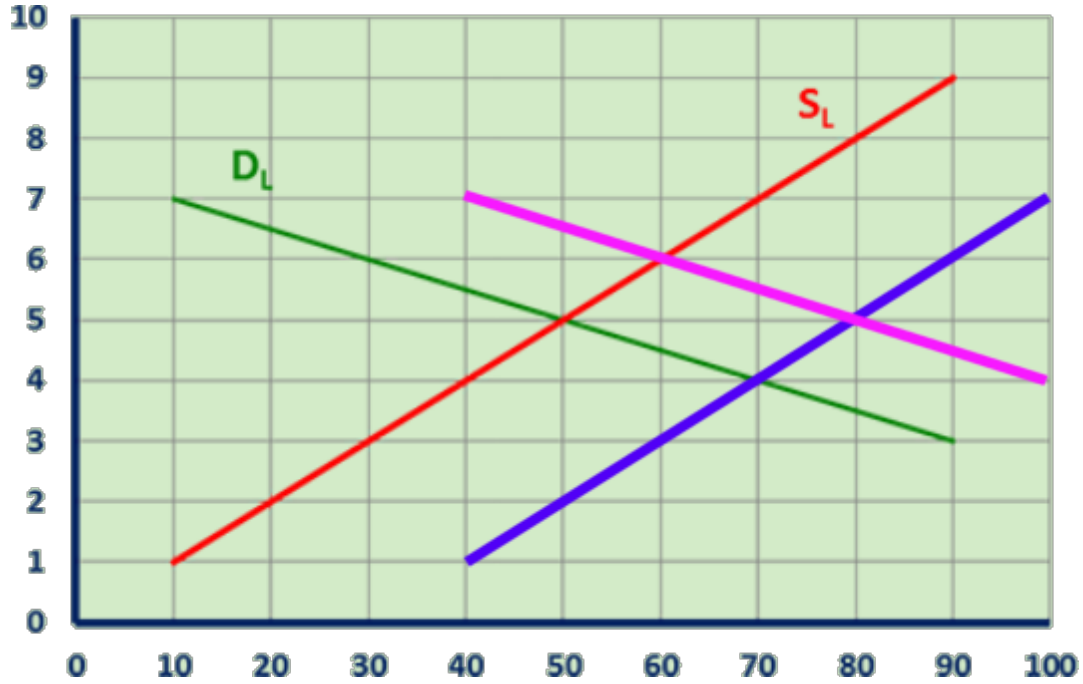
After shifting the supply of labor by 30, we see that the new real wage is 4. Since the price level is \$4, this means that the new equilibrium nominal wage is $4 \times 4 = \$16$.

Problem 8.



If the supply of and demand for labor both increase by 30 units, what is the new equilibrium number of jobs available?

Answer 8.



Shift both by 30 units of labor. The new equilibrium number of jobs available is 80. Notice that the real wage is unchanged!

Problem 9. Which of the following events could cause the demand for labor function to shift to the right?

(a) an increase in the amount of complementary capital

(b) an increase in the productivity of labor

(c) a labor-using technological process

(d) all of the above

(e) none of the above

Answer 9: d. All of the first three choices will increase the MPL of workers, i.e. make them more produce more stuff. This shifts the labor demand curve up (i.e. to the right) by the increase in MPL, since the demand for labor curve essentially is the MPL curve. (Remember the profit maximizing conditions that firms use: $MPL = W/P$.)

Problem 10. Which of the following events could cause the supply of labor to shift to the right, all else equal?

(a) an increase in net immigration

(b) an increase in net birth

(c) an increase in the labor force participation rate

(d) all of the above

(e) none of the above

Answer 10: d. Recall that the supply of labor = labor force participation rate × population. The first two increase the population, and the effect of option (c) is obvious. So any of these will mean a higher L for any level of the real wage for the supply curve.