Ch 5 Answer key.

Answers to Even-Numbered Review Questions

MC answers: 1c, 2c, 3d, 4c, 5a, 6d, 7c, 8c, 9a, 10d, 11d, 12a, 13c, 14c, 15b, 16b, 17c, 18a, 19b, 20c, 21c, 22a, 23b, 24a, 25b.

4. "Minimum wage laws help low-wage workers because they simultaneously increase wages and reduce the marginal expense of labor." Analyze this statement.

   Answer: This statement has two aspects. First, minimum wage laws *can* increase wages and reduce the marginal expense of labor if the labor market is characterized by monopsonistic conditions *and the minimum wage increases are not "too large"* (that is, they do not impose a wage higher than the pre-existing marginal expense of labor). Second, however, these changes can only help workers if the higher wage bills faced by employers do not drive their employers out of business.

6. Workers in a certain job are trained by the company, and the company calculates that to recoup its investment costs the workers' wages must be $5 per hour below their marginal productivity. Suppose that after training, wages are set at $5 below marginal productivity, but that developments in the product market quickly (and permanently) reduce marginal productivity by $2 per hour. If the company does not feel it can lower wages or employee benefits, how will its employment level be affected in the short-run? How will its employment level be affected in the long run? Explain, being sure to define what you mean by short-run and long-run!

Answer: In the short run (that is, when training investments have already been concluded, so all that is variable is the employment levels of trained workers), marginal revenue product still exceeds wages by $3 per hour, so it is advantageous for the company to continue employing workers it has already trained. The company is not making back enough to make the training be a good investment, but making back $3 per hour is better than laying off the workers and making back nothing! Thus, workers will not be laid off.

In the long run (that is, when the company is deciding about investing in *new* workers), the $3 payback per hour is not sufficient to justify the training investment if wages remain as they are. Thus, the firm will not hire and train new workers under the current circumstances. Employment will fall as the firm fails to replace those who leave, and the decline in employment will eventually serve to raise the marginal productivity of labor. The decline in employment will stop when the marginal revenue product of labor is once again $5 greater than the wage rate.

8. The manager of a major league baseball team argues: "Even if I thought player X was washed up, I couldn't get rid of him. He's in the third year of a four-year, $24 million deal. Our team is in no position to eat the rest of his contract." Analyze the manager's reasoning using economic theory.

Answer: The manager is ignoring the fact that the cost of the player will be $24 million over the period whether the player is on the team or not. Teams are always better off maximizing profits, even if they are losing money under their current conditions, and the team may be able to generate more profits if it replaced player X. The condition for replacement is that the difference between the marginal revenue product of the new player and that of
player X exceeds the salary of the new player (the marginal expense of continuing player X is zero).

■ Answers to Even-Numbered Problems

2. Assume that the labor supply curve to a firm is the one given I problem 1 above. If the firm's marginal revenue product of labor (MRP_L) = 240 – 2E, what is the profit-maximizing level of employment (E^*) and what is the wage level (W^*) the firm would have to pay to obtain E^* workers?

Answer: Total labor costs to the firm (C) equal WE , which expressed in terms of E are as follows:

$$C = E \times E/5 = 0.2E^2$$

To maximize profit, the firm's marginal revenue product of labor, 240 – 2E, must equal the marginal expense of labor (dC/dE =):

$$240 - 2E = 0.4E$$

Solving the above equation for E yields $E^* = 100$. Plugging $E = 100$ into the labor supply equation ($E = 5W$) and solving for W yields $W^* = \$20$.