

TOPIC 1: INTRODUCTION TO OPERATIONS MANAGEMENT AND OPERATIONS STRATEGY

Practice Problems

1. Sterling Savings uses number of customers served per hour by a teller as a measure of its labor productivity. During the past week, the savings institution's five tellers served a total of 2,395 customers. Business hours are 10 a.m. to 4 p.m. Compute a productivity measure of its tellers.
2.
 - a. A firm in Washington State that processes fruits and vegetables is able to produce 400 cases of canned apples in one-half hour by using four new workers. What is the labor productivity in cases per labor-hour?
 - b. After one month, the same four workers can produce 1200 cases of canned apples in one-half hour. What is the new labor productivity?
3. If inputs increase by 40% and outputs decrease by 10%, what is the percent change in productivity?
4. If inputs decrease by 50% and outputs increase by 20%, what is the percent increase in productivity?
5. Suppose that a firm is considering opening a plant in China, and the current exchange rate is 8.30 Chinese Yuan (¥) per dollar. Also, the wage rate is ¥15 per hour. Suppose further that U.S. workers can produce 100 units per hour, while the Chinese workers are expected to be able to produce 25 units per hour.
 - a. What is the "relative" wage rate (in dollars) of operating in China, after taking productivity differences into account?
 - b. If the U.S. wage rate is \$13.30 per hour, are labor costs (relatively) cheaper in the U.S. or China?
6. An agricultural mill manufactures feed cattle. The mill has contracted to produce 10 tons of cattle feed in a week (five working days per week). Four workers worked eight hours per day and finished this task two days ahead of time. What is the labor productivity per labor-hour?