

Required:

1. Compute the materials price variance for the plates purchased last month, and compute a materials quantity variance for the plates used last month.
2. For labor cost in the lab:
  - a. Compute a labor rate variance and a labor efficiency variance.
  - b. In most hospitals, three-fourths of the workers in the lab are certified technicians and one-fourth are assistants. In an effort to reduce costs, Cottonwood Hospital employs only one-half certified technicians and one-half assistants. Would you recommend that this policy be continued? Explain.
3. Compute the variable overhead rate and efficiency variances. Is there any relation between the variable overhead efficiency variance and the labor efficiency variance? Explain.



**PROBLEM 11-11 Basic Variance Analysis** [LO 11-1, LO 11-2, LO 11-3]

Barberry, Inc., manufactures a product called Fruta. The company uses a standard cost system and has established the following standards for one unit of Fruta:

|                                           | Standard<br>Quality | Standard<br>Price or Rate | Standard<br>Cost |
|-------------------------------------------|---------------------|---------------------------|------------------|
| Direct materials . . . . .                | 1.5 pounds          | \$6.00 per pound          | \$ 9.00          |
| Direct labor . . . . .                    | 0.6 hours           | \$12.00 per hour          | 7.20             |
| Variable manufacturing overhead . . . . . | 0.6 hours           | \$2.50 per hour           | 1.50             |
|                                           |                     |                           | <u>\$17.70</u>   |

During June, the company recorded this activity related to production of Fruta:

- a. The company produced 3,000 units during June.
- b. A total of 8,000 pounds of material were purchased at a cost of \$46,000.
- c. There was no beginning inventory of materials; however, at the end of the month, 2,000 pounds of material remained in ending inventory.
- d. The company employs 10 persons to work on the production of Fruta. During June, they worked an average of 160 hours at an average rate of \$12.50 per hour.
- e. Variable manufacturing overhead is assigned to Fruta on the basis of direct labor-hours. Variable manufacturing overhead costs during June totaled \$3,600.

The company's management is anxious to determine the efficiency of Fruta production activities.

Required:

1. For direct materials:
  - a. Compute the price and quantity variances.
  - b. The materials were purchased from a new supplier who is anxious to enter into a long-term purchase contract. Would you recommend that the company sign the contract? Explain.
2. For labor employed in the production of Fruta:
  - a. Compute the rate and efficiency variances.
  - b. In the past, the 10 persons employed in the production of Fruta consisted of 4 senior workers and 6 assistants. During June, the company experimented with 5 senior workers and 5 assistants. Would you recommend that the new labor mix be continued? Explain.
3. Compute the variable overhead rate and efficiency variances. What relation can you see between this efficiency variance and the labor efficiency variance?



**PROBLEM 11-12 Basic Variance Analysis; the Impact of Variances on Unit Costs** [LO 11-1, LO 11-2, LO 11-3]

Landers Company manufactures a number of products. The standards relating to one of these products are shown below, along with actual cost data for May.