

Exercise 15.3
LO 4, 5

Performance reporting and flexible budgeting Following is a partially completed performance report for a recent week for direct labor in the binding department of a book publisher:

	Original Budget	Flexed Budget	Actual	Budget Variance
Direct labor	\$4,800		\$5,330	

The original budget is based on the expectation that 8,000 books would be bound; the standard is 20 books per hour at a pay rate of \$12 per hour. During the week, 7,600 books were actually bound. Employees worked 410 hours at an actual total cost of \$5,330.

Required:

- Calculate the flexed budget amount against which actual performance should be evaluated and then calculate the budget variance.
- Calculate the direct labor efficiency variance in terms of hours.
- Calculate the direct labor rate variance.



Exercise 15.4
LO 4, 5

Performance reporting and flexible budgeting For the stamping department of a manufacturing firm, the standard cost for direct labor is \$12 per hour, and the production standard calls for 1,000 stampings per hour. During June, 168 hours were required for actual production of 148,000 stampings. Actual direct labor cost for the stamping department for June was \$2,184.

Required:

- Complete the following performance report for June:

	Flexed Budget	Actual	Budget Variance
Direct labor			

- Analyze the budget variance by calculating the direct labor efficiency and rate variances for June.
- What alternatives to the preceding monthly report could improve control over the stamping department's direct labor?

Exercise 15.5
LO 4, 5

Direct labor variances—solving for unknowns Ackerman's Garage uses standards to plan and control labor time and expense. The standard time for an engine tune-up is 3 hours, and the standard labor rate is \$25 per hour. Last week, 42 tune-ups were completed. The labor efficiency variance was 14 hours unfavorable, and the labor rate variance totaled \$140 favorable.

Required:

- Calculate the actual direct labor hourly rate paid for tune-up work last week.
- Calculate the dollar amount of the labor efficiency variance.
- What is the most likely explanation for these two variances? Is this a good trade-off for the management of the garage to make? Explain your answer.



Exercise 15.6
LO 4, 5

Direct labor variances—solving for unknowns Coastal Industries has established direct labor performance standards for its maintenance and repair shop.

(2 pages)

* 15.6 cont...

However, some of the labor records were destroyed during a recent fire. The actual hours worked during March were 4,000, and the total direct labor budget variance was \$2,200 unfavorable. The standard labor rate was \$18 per hour, but recent resignations allowed the firm to hire lower-paid replacement workers for some jobs, and this produced a favorable rate variance of \$3,200 for March.

Required:

- a. Calculate the actual direct labor rate paid per hour during March.
- b. Calculate the dollar amount of the direct labor efficiency variance for March.
- c. Calculate the standard direct labor hours allowed for the actual level of activity during March. (*Hint: Use the formula for the quantity variance and solve for the missing information.*)

Direct material variances—solving for unknowns Birchwood, Inc., manufactures end tables, armchairs, and other wood furniture products from high-quality materials. The company uses a standard costing system and isolates variances as soon as possible. The purchasing manager is responsible for controlling direct material price variances, and production managers are responsible for controlling usage variances. During August, the following results were reported for the production of Knotty Birch armchairs:

Exercise 15.7
LO 4, 5



Units produced	1,000 armchairs
Direct materials purchased	12,000 board feet
Direct materials issued into production	11,500 board feet
Standard cost per unit (12 board feet × \$12)	\$144 per unit produced
Purchase price variance	\$2,500 unfavorable

Required:

- a. Calculate the actual price paid per board foot purchased.
- b. Calculate the standard quantity of materials allowed (in board feet) for the number of units produced.
- c. Calculate the direct materials usage variance.
- d. What is the most likely explanation for the price and usage variances? Is this a good trade-off for management of Birchwood, Inc., to make? Explain your answer.

Direct material variances—solving for price and usage variances Fiberworks Company is a manufacturer of fiberglass toy boats. The company has recently implemented a standard cost system and has designed the system to isolate variances as soon as possible. During the month of August, the following results were reported for the production of 50,000 toy boats:

Exercise 15.8
LO 4, 5

* (2 pages)

Direct materials (fiberglass) purchased	100,000 pounds
Direct materials issued into production	80,000 pounds
Standard pounds allowed per boat	1.5 pounds
Standard price per pound	\$7.50
Cost of fiberglass purchased	\$725,500

Required:

- a. Calculate the actual cost per pound of fiberglass purchased during August.
- b. Calculate the direct materials purchase price variance for August.