

Compute the price and usage variances for direct materials and direct labor. Identify any variances that Gould should investigate. Based on your results, offer a possible explanation for the labor usage variance.

• Compute the fixed manufacturing overhead cost spending and volume variances. Explain your findings.

LO 8-6 **Problem 8-28B** *Computing variances*

A fire destroyed most of Ordessa Products Corporation's records. Megan Carey, the company's accountant, is trying to piece together the company's operating results from salvaged documents. She discovered the following data.

Standard materials quantity per unit	2.5 pounds
Standard materials price	\$8 per pound
Standard labor quantity per unit	0.6 hour
Standard labor price	\$24 per hour
Actual number of products produced	8,000 units
Materials price variance	\$3,168 Favorable
Materials usage variance	\$1,600 Favorable
Labor price variance	\$3,904 Unfavorable
Labor usage variance	\$1,902 Unfavorable

Required

- Determine the actual amount of materials used.
- Determine the actual price per pound paid for materials.
- Determine the actual labor hours used.
- Determine the actual labor price per hour.

ANALYZE, THINK, COMMUNICATE

ATC 8-1 **Business Applications Case** *Static versus flexible budget variances*



John Richardson is the manufacturing production supervisor for Torsion Tool Works (TTW), a company that manufactures hand tools for mechanics. Trying to explain why he did not get the year-end bonus that he had expected, he told his wife, "This is the dumbest place I've ever worked. Last year the company set up this budget assuming it would sell 250,000 units. Well, it sold only 240,000. The company lost money and gave me a bonus for not using as much materials and labor as was called for in the budget. This year, the company has the same 250,000 units goal and it sells 260,000. The company's making all kinds of money. You'd think I'd get this big fat bonus. Instead, management tells me I used more materials and labor than was budgeted. They said the company would have made a lot more money if I'd stayed within my budget. I guess I gotta wait for another bad year before I get a bonus. Like I said, this is the dumbest place I've ever worked."

TTW's master budget and the actual results for the most recent year of operating activity follow.

	Master Budget	Actual Results	Variance	F or U
Number of units	250,000	260,000	10,000	
Sales revenue	\$3,750,000	\$3,950,000	\$200,000	F
Variable manufacturing costs				
Materials	(600,000)	(622,200)	22,200	U
Labor	(312,500)	(321,000)	8,500	U
Overhead	(337,500)	(354,700)	17,200	U
Variable selling, general, and admin. costs	(475,000)	(501,300)	26,300	U
Contribution margin	2,025,000	2,150,800	125,800	F
Fixed costs				
Manufacturing overhead	(1,275,000)	(1,273,100)	1,900	F
Selling, general, and admin. costs	(470,000)	(479,300)	9,300	U
Net income	\$ 280,000	\$ 398,400	\$118,400	F

Required

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- Did TTW increase unit sales by cutting prices or by using some other strategy?
- Is Mr. Richardson correct in his conclusion that something is wrong with the company's performance evaluation process? If so, what do you suggest be done to improve the system?
- Prepare a flexible budget and recompute the budget variances.
- Explain what might have caused the fixed costs to be different from the amount budgeted.
- Assume that the company's materials price variance was favorable and its materials usage variance was unfavorable. Explain why Mr. Richardson may not be responsible for these variances. Now, explain why he may have been responsible for the materials usage variance.
- Assume the labor price variance is unfavorable. Was the labor usage variance favorable or unfavorable?
- Is the fixed cost volume variance favorable or unfavorable? Explain the effect of this variance on the cost of each unit produced.

ATC 8-2 Group Assignment Variable price and usage variances and fixed manufacturing overhead cost variances



Kemp Tables Inc. (KTI) makes picnic tables of 2 × 4 planks of treated pine. It sells the tables to large retail discount stores such as **Walmart**. After reviewing the following data generated by KTI's chief accountant, the company president, Arianne Darwin, expressed concern that the total manufacturing cost was more than \$0.5 million above budget (\$7,084,800 – \$6,520,000 = \$564,800).

	Actual Results	Master Budget
Cost of planks per table	\$ 44.10	\$ 40.00
Cost of labor per table	26.10	25.50
Total variable manufacturing cost per table (a)	\$ 70.20	\$ 65.50
Total number of tables produced (b)	82,000	80,000
Total variable manufacturing cost (a × b)	\$5,756,400	\$5,240,000
Total fixed manufacturing cost	1,328,400	1,280,000
Total manufacturing cost	<u>\$7,084,800</u>	<u>\$6,520,000</u>

Ms. Darwin asked Conrad Pearson, KTI's chief accountant, to explain what caused the increase in cost. Mr. Pearson responded that things were not as bad as they seemed. He noted that part of the cost variance resulted from making and selling more tables than had been expected. Making more tables naturally causes the cost of materials and labor to be higher. He explained that the flexible budget cost variance was less than \$0.5 million. Specifically, he provided the following comparison.

	Actual Results	Flexible Budget
Cost of planks per table	\$ 44.10	\$ 40.00
Cost of labor per table	26.10	25.50
Total variable manufacturing cost per table (a)	\$ 70.20	\$ 65.50
Total number of tables produced (b)	82,000	82,000
Total variable manufacturing cost (a × b)	\$5,756,400	\$5,371,000
Total fixed manufacturing cost	1,328,400	1,280,000
Total manufacturing cost	<u>\$7,084,800</u>	<u>\$6,651,000</u>

Based on this information, he argued that the relevant variance for performance evaluation was only \$433,800 (\$7,084,800 – \$6,651,000). Ms. Darwin responded, "Only \$433,800! I consider that a very significant number. By the end of the day, I want a full explanation as to what is causing our costs to increase."