

Savannah Machine Tool Company has an automated production process, and production activity is quantified in terms of machine hours. It uses a standard-costing system. The annual static budget for 20x6 called for 6,000 units to be produced, requiring 30,000 machine hours. The standard-overhead rate for the year was computed using this planned level of production. The 20x6 manufacturing cost report follows.

Problem 17.65
 Use of a Flexible Budget;
 Review of Chapters 16
 and 17
 (LO 1, 2, 5)

SAVANNAH MACHINETOOL COMPANY
Manufacturing Cost Report
For the Year 20x6
 (in thousands of dollars)

Cost Item	Static Budget	Flexible Budget		Actual Cost
	30,000 Machine Hours	31,000 Machine Hours	32,000 Machine Hours	
Direct material:				
G27 aluminum	\$ 252.0	\$ 260.4	\$ 268.8	\$ 270.0
M14 steel alloy	78.0	80.6	83.2	83.0
Direct labor:				
Assembler	273.0	282.1	291.2	287.0
Grinder	234.0	241.8	249.6	250.0
Manufacturing overhead:				
Maintenance	24.0	24.8	25.6	25.0
Supplies	129.0	133.3	137.6	130.0
Supervision	80.0	82.0	84.0	81.0
Inspection	144.0	147.0	150.0	147.0
Insurance	50.0	50.0	50.0	50.0
Depreciation	200.0	200.0	200.0	200.0
Total cost	<u>\$1,464.0</u>	<u>\$1,502.0</u>	<u>\$1,540.0</u>	<u>\$1,523.0</u>

Savannah Machine Tool Company develops flexible budgets for different levels of activity for use in evaluating performance. It produced a total of 6,200 units during 20x6, requiring 32,000 machine hours. The preceding manufacturing cost report compares the company's actual cost for the year with the static budget and the flexible budget for two different activity levels.

Required

Compute the following amounts. For variances, indicate favorable or unfavorable where appropriate. Answers should be rounded to two decimal places when necessary.

- The standard number of machine hours allowed to produce one unit of product.
- The actual cost of direct material used in one unit of product.
- The cost of material that should be processed per machine hour.
- The standard direct-labor cost for each unit produced.
- The variable-overhead rate per machine hour in a flexible-budget formula. (*Hint:* Use the high-low method to estimate cost behavior. In the high-low method of cost estimation, the difference between the cost levels at the high and low *activity* levels is divided by the difference between the high and low *activity* levels. This quotient provides a simple estimate of the *variable* cost rate per unit of activity.)
- The standard fixed-overhead rate per machine hour used for product costing.
- The variable-overhead spending variance. (Assume that management has determined that the actual fixed overhead cost in 20x6 amounted to \$324,000.)
- The variable-overhead efficiency variance.
- The fixed-overhead budget variance.
- The fixed-overhead volume variance. [Make the same assumption as in requirement (g).]
- The total budgeted manufacturing cost (in thousands of dollars) for an output of 6,050 units. (*Hint:* Use the flexible-budget formula.)