

1. Award: 10.00 points

Puget Sound Divers is a company that provides diving services such as underwater ship repairs to clients in the Puget Sound area. The company's planning budget for May appears below:

Puget Sound Divers Planning Budget For the Month Ended May 31	
Budgeted diving-hours (q)	350
Revenue ($\$460.00q$)	<u>\$ 161,000</u>
Expenses:	
Wages and salaries ($\$11,000 + \$126.00q$)	55,100
Supplies ($\$6.00q$)	2,100
Equipment rental ($\$2,400 + \$23.00q$)	10,450
Insurance ($\$4,000$)	4,000
Miscellaneous ($\$510 + \$1.44q$)	<u>1,014</u>
Total expense	<u>72,664</u>
Net operating income	<u>\$ 88,336</u>

During May, the company's actual activity was 340 diving-hours.

Required:

Prepare a flexible budget for May. (Round your answers to the nearest whole number.)

Puget Sound Divers	
Flexible Budget	
For the Month Ended May 31	
Actual diving-hours	
Revenue	
Expenses:	
Wages and salaries	
Supplies	
Equipment rental	
Insurance	
Miscellaneous	
Total expense	0
Net operating income	\$0



Hints

[Hint #1](#)

References

Worksheet

Difficulty: 1 Easy

Learning Objective: 09-01 Prepare a planning budget and a flexible budget and understand how they differ from one another.

2. Award: 10.00 points

Ray Company provided the following excerpts from its Production Department's flexible budget performance report. (Round "rate per hour" answers to 2 decimal places. Indicate the effect of each variance by selecting "F" for favorable, "U" for unfavorable, and "None" for no effect (i.e., zero variance). Input all amounts as positive values.)

Ray Company									
Production Department Flexible Budget Performance Report									
For the Month Ended August 31									
		Actual Results	Spending Variances		Flexible Budget	Activity Variances		Planning Budget	
Labor-hours (q)		9,630							9,150
Direct labor	([] q)	\$ 209,205			\$ 207,045				
Indirect labor	([] + \$ 1.50 q)		\$ 1,930	F	\$ 22,015				
Utilities	(\$ 8,000 + [] q)		\$ 1,600	U		\$ 1,056	U	\$ 28,130	
Supplies	([] + [] q)	\$ 5,150			\$ 4,594	\$ 144		\$ 4,450	
Equipment depreciation	(\$ 82,150)		\$ 0	None		\$ 0	None		
Factory administration	(\$ 19,000 + \$ 1.40 q)								
Total expense		\$ 378,568							

References

Worksheet

Learning Objective: 09-01 Prepare a planning budget and a flexible budget and understand how they differ from one another.

Learning Objective: 09-03 Calculate and interpret revenue and spending variances.

Difficulty: 3 Hard

Learning Objective: 09-02 Calculate and interpret activity variances.

Learning Objective: 09-04 Prepare a performance report that combines activity variances and revenue and spending variances.

3. Award: 10.00 points

Boyne University offers an extensive continuing education program in many cities throughout the state. For the convenience of its faculty and administrative staff and to save costs, the university operates a motor pool. The motor pool's monthly planning budget is based on operating 17 vehicles; however, for the month of March the university purchased one additional vehicle. The motor pool furnishes gasoline, oil, and other supplies for its automobiles. A mechanic does routine maintenance and minor repairs. Major repairs are performed at a nearby commercial garage.

The following cost control report shows actual operating costs for March of the current year compared to the planning budget for March.

Boyne University Motor Pool Cost Control Report For the Month Ended March 31			
	March Actual	Planning Budget	(Over) Under Budget
Miles	58,800	50,800	
Autos	18	17	
Gasoline	\$ 13,165	\$ 12,192	\$ (973)
Oil, minor repairs, parts	6,940	6,604	(336)
Outside repairs	990	816	(174)
Insurance	1,530	1,411	(119)
Salaries and benefits	8,610	8,610	0
Vehicle depreciation	3,744	3,536	(208)
Total	<u>\$ 34,979</u>	<u>\$ 33,169</u>	<u>\$ (1,810)</u>

The planning budget was based on the following assumptions:

- a. \$0.24 per mile for gasoline.
- b. \$0.13 per mile for oil, minor repairs, and parts.
- c. \$48 per automobile per month for outside repairs.
- d. \$83 per automobile per month for insurance.
- e. \$8,610 per month for salaries and benefits.
- f. \$208 per automobile per month for depreciation.

The supervisor of the motor pool is unhappy with the report, claiming it paints an unfair picture of the motor pool's performance.

Required:

1. Calculate the spending variances for March. (Round "per mile" answers to 2 decimal places. Indicate the effect of each variance by selecting "F" for favorable, "U" for unfavorable, and "None" for no effect (i.e., zero variance). Input all amounts as positive values.)

Boyne University Motor Pool		
Spending Variances		
For the Month Ended March 31		
Gasoline		
Oil, minor repairs, parts		
Outside repairs		
Insurance		
Salaries and benefits		
Vehicle depreciation		
Total		

References

Worksheet

Learning Objective:
09-03 Calculate and interpret revenue and spending variances.

Learning Objective: 09-06 Understand common errors made in preparing performance reports based on budgets and actual results.

Difficulty: 3 Hard

Learning Objective:
09-05 Prepare a flexible budget with more than one cost driver.

4. Award: 10.00 points

Bandar Industries Berhad of Malaysia manufactures sporting equipment. One of the company's products, a football helmet for the North American market, requires a special plastic. During the quarter ending June 30, the company manufactured 3,900 helmets, using 2,574 kilograms of plastic. The plastic cost the company \$16,988.

According to the standard cost card, each helmet should require 0.59 kilograms of plastic, at a cost of \$7.00 per kilogram.

Required:

1. What is the standard quantity of kilograms of plastic (SQ) that is allowed to make 3,900 helmets?
2. What is the standard materials cost allowed (SQ × SP) to make 3,900 helmets?
3. What is the materials spending variance?
4. What is the materials price variance and the materials quantity variance?

(For requirements 3 and 4, indicate the effect of each variance by selecting "F" for favorable, "U" for unfavorable, and "None" for no effect (i.e., zero variance). Input all amounts as positive values. Do not round intermediate calculations.)

1.	Standard quantity of kilograms allowed		
2.	Standard cost allowed for actual output		
3.	Materials spending variance		
4.	Materials price variance		
	Materials quantity variance		

Hints

Hint #1

1.	Materials price variance		
	Materials quantity variance		
2.	Labor rate variance		
	Labor efficiency variance		
3.	Variable overhead rate variance		
	Variable overhead efficiency variance		

References

Worksheet

Learning Objective:
10-01 Compute the direct materials price and quantity variances and explain their significance.

Learning Objective: 10-03 Compute the variable manufacturing overhead rate and efficiency variances and explain their significance.

Difficulty: 3 Hard

Learning Objective:
10-02 Compute the direct labor rate and efficiency variances and explain their significance.

5. Award: 10.00 points

Marvel Parts, Inc., manufactures auto accessories. One of the company's products is a set of seat covers that can be adjusted to fit nearly any small car. The company has a standard cost system in use for all of its products. According to the standards that have been set for the seat covers, the factory should work 995 hours each month to produce 1,990 sets of covers. The standard costs associated with this level of production are:

	Total	Per Set of Covers
Direct materials	\$ 47,362	\$23.80
Direct labor	\$ 8,955	4.50
Variable manufacturing overhead (based on direct labor-hours)	\$ 2,388	1.20
		<u>\$29.50</u>

During August, the factory worked only 1,000 direct labor-hours and produced 2,300 sets of covers. The following actual costs were recorded during the month:

	Total	Per Set of Covers
Direct materials (8,800 yards)	\$ 50,600	\$22.00
Direct labor	\$ 10,580	4.60
Variable manufacturing overhead	\$ 4,600	2.00
		<u>\$28.60</u>

At standard, each set of covers should require 3.5 yards of material. All of the materials purchased during the month were used in production.

Required:

1. Compute the materials price and quantity variances for August.
2. Compute the labor rate and efficiency variances for August.
3. Compute the variable overhead rate and efficiency variances for August.

(Indicate the effect of each variance by selecting "F" for favorable, "U" for unfavorable, and "None" for no effect (i.e., zero variance). Input all amounts as positive values.)

6. Award: 10.00 points

Vitex, Inc. manufactures a popular consumer product and it has provided the following data excerpts from its standard cost system:

Inputs	(1) Standard Quantity or Hours	(2) Standard Price or Rate	Standard Cost (1) × (2)
Direct materials	2.30 pounds	\$16.50 per pound	\$ 37.95
Direct labor	1.00 hours	\$15.40 per hour	\$ 15.40
Variable manufacturing overhead	1.00 hours	\$ 9.20 per hour	\$ 9.20
Total standard cost per unit			<u>\$ 62.55</u>

	Total Standard Cost*	Variances Reported	
		Price or Rate	Quantity or Efficiency
Direct materials	\$ 683,100	\$ 12,586 F	\$ 33,000 U
Direct labor	\$ 277,200	\$ 3,800 U	\$ 15,400 U
Variable manufacturing overhead	\$ 165,600	\$ 4,200 F	\$? [†] U

*Applied to Work in Process during the period.

The company's manufacturing overhead cost is applied to production on the basis of direct labor-hours. All of the materials purchased during the period were used in production. Work in process inventories are insignificant and can be ignored.

Required:

- How many units were produced last period?
- How many pounds of direct material were purchased and used in production?
- What was the actual cost per pound of material? **(Round your answer to 2 decimal places.)**
- How many actual direct labor-hours were worked during the period?
- What was the actual rate paid per direct labor-hour? **(Round your answer to 2 decimal places.)**
- How much actual variable manufacturing overhead cost was incurred during the period?

1.	Number of units produced	
2.	Pounds of direct material purchased and used in production	
3.	Actual cost per pound	
4.	Actual direct labor-hours	
5.	Actual rate per direct labor-hour	
6.	Actual variable manufacturing overhead cost	