**AC202 Quiz 6** **Name**
**Student ID#:**

**Problem 1** Eccles Corporation uses an activity-based costing system with three activity cost pools. The company has provided the following data concerning its costs and its activity based costing system:

Costs:

| | |
|---|---|
| Wages and salaries ..... | $340,000 |
| Depreciation..... | 180,000 |
| Utilities ..... | 200,000 |
| Total..... | $720,000 |

Distribution of resource consumption:

| | Activity Cost Pools | | | |
|---|---|---|---|---|
| | Assembly | Setting Up | Other | Total |
| Wages and salaries .... | 20% | 60% | 20% | 100% |
| Depreciation..... | 15% | 35% | 50% | 100% |
| Utilities ..... | 5% | 55% | 40% | 100% |

How much cost, in total, would be allocated in the first-stage allocation to the Assembly activity cost pool? Show your work.

**Problem 2** Marine, Inc., manufactures a product that is available in both a flexible and a rigid model. The company has made the rigid model for years; the flexible model was introduced several years ago to tap a new segment of the market. Since the introduction of the flexible model, the company's profits have steadily declined, and management has become concerned about the accuracy of its costing system. Sales of the flexible model have been increasing rapidly.

Overhead is applied to products on the basis of direct labor-hours. At the beginning of the current year, management estimated that $600,000 in overhead costs would be incurred and the company would produce and sell 1,000 units of the flexible model and 10,000 units of the rigid model. The flexible model requires 2 hours of direct labor time per unit, and the rigid model requires 1 hours. Direct materials and direct labor costs per unit are given below:

| | **Flexible** | **Rigid** |
|---|---|---|
| Direct materials cost per unit..... | $110 | $80 |
| Direct labor costs per unit ..... | $30 | $15 |

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1. *Compute the predetermined overhead rate using direct labor-hours as the basis for allocating overhead cost to products. Compute the unit product cost for each model.*

| | |
|---|---|
| Flexible model: ..... | |
| Rigid model: ..... | |
| Total direct labor-hours ..... | |

Using direct labor-hours as the allocation base, the predetermined overhead rate would be:

The unit product costs are computed as follows:

| | *Flexible* | *Rigid* |
|---|---|---|
| Direct materials ..... | $ | $ |
| Direct labor..... | | |
| Manufacturing overhead: | | |
| | | |
| | | |
| Unit product cost ..... | $ | $ |

2. An intern suggested that the company use activity-based costing to cost its products. A team was formed to investigate this idea. It came back with the recommendation that four activity cost pools be used. These cost pools and their associated activities are listed as follows:

| *Activity Cost Pool* | *Estimated Overhead Cost* | *Activity* *Flexible* | *Rigid* |
|---|---|---|---|
| Purchase orders ..... | $20,000 | 100 | 300 |
| Rework requests..... | $10,000 | 60 | 140 |
| Product testing..... | $210,000 | 900 | 1,200 |
| Machine related ..... | $360,000 | 1,500 | 2,500 |
| | $600,000 | | |

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Compute the activity rate for each of the activity cost pools.

| *Activity Cost Pool* | *(a) Estimated Overhead Cost* | *(b) Expected Activity* | *(a) ÷ (b) Activity Rate* |
|---|---|---|---|
| Purchase orders..... | $20,000 | orders | per order |
| Rework requests ..... | $10,000 | requests | per request |
| Product testing ..... | $210,000 | tests | per test |
| Machine related..... | $360,000 | MHs | per MH |

3. Assume that actual activity is as expected for the year. Using activity-based costing, do the following:
   a. Determine the total amount of overhead that would be applied to each model for the year

| | ***Flexible*** | | ***Rigid*** | |
|---|---|---|---|---|
| | *Expected Activity* | *Amount* | *Expected Activity* | *Amount* |
| Purchase orders..... | 100 | | 300 | |
| Rework requests..... | 60 | | 140 | |
| Product testing..... | 900 | | 1,200 | |
| Machine related ..... | 1,500 | | 2,500 | |
| Total overhead cost assigned (a) ..... | | | | |
| Number of units produced (b)..... | | | | |
| Overhead cost per unit (a) ÷ (b) ..... | | | | |

   b. Compute the unit product cost for one unit of each model.

| | ***Flexible*** | ***Rigid*** |
|---|---|---|
| Direct materials ..... | | |
| Direct labor..... | | |
| Manufacturing overhead..... | | |
| Unit product cost ..... | $ | $ |

4. Can you identify a possible explanation for the company's declining profits? If so, what is it?