

26

This is an open book/open note examination. You have 2 hours and 10 minutes to complete it and may use a calculator. Computer access is not allowed. **Please write on only one side of any paper submitted to be graded.** You may use your own paper when needed. **I WILL ONLY GRADE THE FRONT SIDE OF ANY PAPER SUBMITTED!!**

1. (30 points) Ralph Corporation manufactures two products (A and B). The overhead costs (\$440,000) have been divided into four cost pools that use the following activity drivers:

<u>Product</u>	<u>Number of Setups</u>	<u>Number of Orders</u>	<u>Direct Labor Hours</u>	<u>Packing Orders</u>	<u>Total</u>
A	40	200	1,000	500	
B	10	50	3,000	300	
Cost per pool	\$60,000	\$100,000	\$200,000	\$80,000	\$440,000

Required:

- Compute the plantwide rate overhead rate based on direct labor hours.
- What is the total overhead costs assigned to products A and B assuming that overhead costs are allocated using the plantwide rate calculated in part (a).
- Compute the allocation rates for each of the activity drivers listed.
- What is the total overhead costs assigned to Products A and B assuming that overhead costs are allocated using activity-based costing.

a)  $440,000 \div 1000 = 440$   
 $440,000 \div 3000 = 146.6$   
 $500 \div 440,000 = 1.136$   
 $300 \div 440,000 = 6.81$

+2  
 28

2. (30 points) Paris Company had \$4,000,000 in sales in 2013. The following represents quality cost data for Paris Company for 2013:

Quality training	\$60,000 P
Warranty repairs	70,000 EF
Rework	50,000 IF
Reinspection of reworked items	45,000 IF
Field testing	65,000 A
Raw materials inspection	37,000 P
Product liability	43,000 EF
Scrap	26,000 IF
Equipment inspection	32,000 IF
Lost sales from inferior product	44,000 EF
Finished goods inspection	42,000 IF
Process inspection	39,000 P

Quality cost

(A)

Required:

- Classify these items into prevention, appraisal, internal failure, or external failure costs. Determine the total cost of each category.
- How much larger would the current year's profit be assuming that the quality costs were reduced to 2.5 percent of sales?

b)

Prevention)  $60,000 + 37,000 + 39,000 = 136,000$

$136,000 \div 4,000,000 = 0.034\%$

EF)  $70,000 + 43,000 + 44,000 = 157,000$

$157,000 \div 4,000,000 = 0.03925\%$

IF)  $50,000 + 45,000 + 26,000 + 32,000 + 42,000 = 195,000$

$195,000 \div 4,000,000 = 0.04875\%$

Appraisal)  $65,000 \div 4,000,000 = 0.01625\%$

Appraisal or Prevention

195,000

18

(b) -10

3. (30 points) Wenatchee Corporation is preparing its annual profit plan. As part of its analysis of the cost of its purchasing activity, management estimates that the \$400,000 for purchasing support should be assigned to the individual vendors from the information given as follows:

	<u>Vendor A</u>	<u>Vendor B</u>	<u>Vendor C</u>
Units purchased	30,000	40,000	30,000
Purchase orders (annual)	40	25	15
Number of shipments received	60	90	50

Required:

- How much of the purchasing support costs would be allocated to each of the vendors assuming that Wenatchee Corporation assigns the cost based on the number of units purchased?
- How much of the purchasing support costs would be allocated to each of the vendors assuming that Wenatchee Corporation assigns the cost based on the annual purchase orders?
- How much of the purchasing support costs would be allocated to each of the vendors assuming that Wenatchee Corporation assigns the cost based the number of shipments received?
- ~~What is the purchase support cost per vendor assuming that you allocate the purchasing support costs using the number of shipments received in part c?~~

$$400,000 \div 40 = 10,000$$
$$400,000 \div 60 = 6666.6$$

+ 2  
28

4. (30 points) Harry Corporation manufactures two products, X and Y, from a joint process. A production run costs \$200,000 and results in 6,000 units of X and 4,000 units of Y. Both products can be processed past the split-off point, incurring separable cost for X of \$20 per unit and for Y of \$30 per unit. The market prices for X and Y are \$80 and \$100, respectively.

Required:

- What is the amount of separable costs assigned to products X and Y assuming that joint costs are allocated using the final sales value method?
- What is the amount of joint costs assigned to products X and Y assuming that joint costs are allocated using the net realizable value method?
- What is the amount of total costs assigned to products X and Y assuming that joint costs are allocated using the physical units method?
- Should product Y be sold at the split-off point or processed further assuming that it can be sold for \$60 at split-off? Justify your answer with numbers.

X 0  
— 30

5. (40 points) Cari Company has four departments, of which Assembly and Finishing are producing departments. Meanwhile, power and general factory are service (support) departments. The following information pertains to the service (support) departments:

Services provided to:

	Power	General Factory	Assembly	Finishing
Direct costs	\$160,000	\$200,000	\$350,000	\$250,000
Power	---	40%	30%	30%
General Faculty	20%	---	50%	30%

Required:

1. Determine the **total amount of costs** assigned to the Assembly and Finishing Departments assuming that you allocate the service (support) department costs using the direct method (includes direct costs).
2. Determine the **total amount of costs** assigned to the Assembly and Finishing Departments assuming that you allocate the service (support) department costs using the step (sequential) method (includes direct costs). Allocate General Factory costs first.
3. Give me the two equations to measure the total amount of costs to be allocated from the two support department using the reciprocal method.

①

$$160,000 \times 20\% = 32,000$$

$$350,000 \times 30\% = 105,000$$

$$350,000 \times 50\% = 175,000$$

$$\text{Direct cost } 250,000 + 200,000$$

$$200,000 = \frac{50\%}{(50\% + 30\%)} \times 80,000$$

$$200,000 \times 40\% = 80,000$$

+ 4  
34

3) Total Service = Direct cost of the + cost allocated to the service department

6. (40 points) Harrison Corporation has the following purchases for the first four months of 2013:

<u>Month</u>	<u>Purchase</u>
January	\$250,000
February	220,000
March	180,000
April	280,000

Historically, the following trend has been established regarding cash paid out for purchases:

- 30 percent in month of purchase
- 70 percent in month following purchase

Ending materials inventory is equal to 30 percent of next month's purchases.

Accounts receivable and accounts payable balances on December 31, 2012 are \$120,000 and \$100,000, respectively.

Required:

- What is the estimated cash paid to suppliers during January 2013?
- What is the estimated cash paid to suppliers during February 2013?
- What is the budgeted Accounts Payable balance at the end of January 2013?
- What is the beginning inventory balance for February 2013?

10  
— 40