

1.

value:
10.00 points

For many years, Diehl Company has produced a small electrical part that it uses in the production of its standard line of diesel tractors. The company's unit product cost for the part, based on a production level of 60,000 parts per year, is as follows:

	Per Part	Total
Direct materials	\$ 4.00	
Direct labor	2.75	
Variable manufacturing overhead	0.50	
Fixed manufacturing overhead, traceable	3.00	\$ 180,000
Fixed manufacturing overhead, common (allocated on the basis of labor-hours)	2.25	135,000
		\$
Unit product cost	<u>\$ 12.50</u>	

An outside supplier has offered to supply the electrical parts to the Diehl Company for only \$10.00 per part. One-third of the traceable fixed manufacturing cost is supervisory salaries and other costs that can be eliminated if the parts are purchased. The other two-thirds of the traceable fixed manufacturing costs consist of depreciation of special equipment that has no resale value. Economic depreciation on this equipment is due to obsolescence rather than wear and tear. The decision to buy the parts from the outside supplier would have no effect on the common fixed costs of the company, and the space being used to produce the parts would otherwise be idle.

Required:

1. Determine the total relevant cost if parts are made inside the company. **(Do not round intermediate calculations. Omit the "\$" sign in your response.)**

Total relevant cost (60,000 parts) \$

2. Determine the total relevant cost if parts are purchased from the outside supplier. **(Omit the "\$" sign in your response.)**

Total relevant cost (60,000 parts) \$

3. What is the increase or decrease in profits as a results of purchasing the parts from the outside supplier rather than making them inside the company? **(Input the amount as a positive value. Do not round intermediate calculations. Omit the "\$" sign in your response.)**

Profit would by \$ per year

[check my work](#)



[eBook Link](#)



[references](#)

2.

value:
10.00 points

A number of costs are listed in the table that may be relevant in decisions faced by the management of Poulsen & Sonner A/S, a Danish furniture manufacturer:

Requirement 1 relates to Case 1, and requirement 2 relates to Case 2. Consider the two cases independently.

- The company chronically runs at capacity and the old Model A3000 machine is the company's constraint. Management is considering the purchase of a new Model B3800 machine to use in addition to the company's present Model A3000 machine. The old Model A3000 machine will continue to be used to capacity as before, with the new Model B3800 being used to expand production. The increase in volume will be large enough to require increases in fixed selling expenses and in general administrative overhead, but not in the general fixed manufacturing overhead..
- The old Model A3000 machine is not the company's constraint, but management is considering replacing it with a new Model B3800 machine because of the potential savings in direct materials cost with the new machine. The Model A3000 machine would be sold. This change will have no effect on production or sales, other than some savings in direct materials costs due to less waste.

Required:

Indicate whether each item is relevant or not relevant in the above situations.

Item	Case 1	Case 2
a. Sales revenue	Relevant ▼	Not relevant ▼
b. Direct materials	Relevant ▼	Relevant ▼
c. Direct labor	Relevant ▼	Not relevant ▼
d. Variable manufacturing overhead	Relevant ▼	Not relevant ▼
e. Book value—Model A3000 machine	Not relevant ▼	Not relevant ▼
f. Disposal value—Model A3000 machine	Not relevant ▼	Relevant ▼
g. Depreciation—Model A3000 machine	Not relevant ▼	Not relevant ▼
h. Market value—Model B3800 machine (cost)	Relevant ▼	Relevant ▼
i. Fixed manufacturing overhead (general)	Not relevant ▼	Not relevant ▼
j. Variable selling expense.	Relevant ▼	Not relevant ▼
k. Fixed selling expense	Relevant ▼	Not relevant ▼
l. General administrative overhead	Relevant ▼	Not relevant ▼



3.

value:
10.00 points

Miyamoto Jewelers is considering a special order for 10 handcrafted gold bracelets to be given as gifts to members of a wedding party. The normal selling price of a gold bracelet is \$389.95 and its unit product cost is \$264.00 as shown below:

Direct materials	\$ 143.00
Direct labor	86.00
Manufacturing overhead	35.00
Unit product cost	\$264.00

Most of the manufacturing overhead is fixed and unaffected by variations in how much jewelry is produced in any given period. However, \$7 of the overhead is variable with respect to the number of bracelets produced. The customer who is interested in the special bracelet order would like special filigree applied to the bracelets. This filigree would require additional materials costing \$6 per bracelet and would also require acquisition of a special tool costing \$465 that would have no other use once the special order is completed. This order would have no effect on the company's regular sales and the order could be fulfilled using the company's existing capacity without affecting any other order.

Required:

- a. What effect would accepting this order have on the company's net operating income if a special price of \$349.95 is offered per bracelet for this order? **(Input the amount as a positive value. Do not round intermediate calculations. Round your answer to 2 decimal places. Omit the "\$" sign in your response.)**

Net operating income by \$

- b. Should the special order be accepted at this price?

- Yes
 No

[check my work](#)



[eBook Link](#)



[View Hint #1](#)



[references](#)

4.

value:
10.00 points

Climate-Control, Inc., manufactures a variety of heating and air-conditioning units. The company is currently manufacturing all of its own component parts. An outside supplier has offered to sell a thermostat to Climate-Control for \$20 per unit. To evaluate this offer, Climate-Control, Inc., has gathered the following information relating to its own cost of producing the thermostat internally:

	Per Unit	15,000 Units per year
Direct materials	\$ 6	\$ 90,000
Direct labor	8	120,000
Variable manufacturing overhead	1	15,000
Fixed manufacturing overhead, traceable	5*	75,000
Fixed manufacturing overhead, common, but allocated	10	150,000
Total cost	\$ 30	\$ 450,000

*40% supervisory salaries; 60% depreciation of special equipment (no resale value).

Required:

1a. Assuming that the company has no alternative use for the facilities now being used to produce the thermostat, compute the total cost of making and buying the parts. **(Omit the "\$" sign in your response.)**

	Make	Buy
Total relevant cost (15,000 units)	\$ 255000	\$ 300000

1b. Should the outside supplier's offer be accepted?

- Accept
 Reject

2a. Suppose that if the thermostats were purchased, Climate-Control, Inc., could use the freed capacity to launch a new product. The segment margin of the new product would be \$65,000 per year. Compute the total cost of making and buying the parts. **(Omit the "\$" sign in your response.)**

	Make	Buy
Total relevant cost (15,000 units)	\$ 320000	\$ 300000

2b. Should Climate-Control, Inc., accept the offer to buy the thermostats from the outside supplier for \$20 each?

- Accept
 Reject

5.

value:
10.00 points

Sport Luggage Inc. makes high-end hard-sided luggage for sports equipment. Data concerning three of the company's most popular models appear below.

	Ski Vault	Golf Caddy	Fishing Quiver
Selling price per unit	\$220	\$300	\$175
Variable cost per unit	\$ 60	\$120	\$ 55
Plastic injection molding machine processing time required to produce one unit	4 minutes	5 minutes	2 minutes
Pounds of plastic pellets per unit	5 pounds	6 pounds	5 pounds

Required:

1a. The total time available on the plastic injection molding machine is the constraint in the production process. What is contribution margin per unit of the constrained resources for Ski Vault, Golf Caddy and Fishing Quiver? **(Omit the "\$" sign in your response.)**

	Ski Vault	Golf Caddy	Fishing Quiver
Contribution margin	\$ 40 per minute	\$ 36 per minute	\$ 60 per minute

1b. Which product would be the most profitable use of this constraint?

- Ski Vault
 Golf Caddy
 Fishing Quiver

1c. Which product would be the least profitable use of this constraint?

- Ski Vault
 Golf Caddy
 Fishing Quiver

2a. A severe shortage of plastic pellets has required the company to cut back its production so much that the plastic injection molding machine is no longer the bottleneck. Instead, the constraint is the total available pounds of plastic pellets. What is contribution margin per unit of the constrained resources for Ski Vault, Golf Caddy and Fishing Quiver? **(Omit the "\$" sign in your response.)**

	Ski Vault	Golf Caddy	Fishing Quiver
Contribution margin	\$ 32 per pound	\$ 30 per pound	\$ 24 per pound

2b. Which product would be the most profitable use of this constraint?

- Ski Vault
 Golf Caddy
 Fishing Quiver

2c. Which product would be the least profitable use of this constraint?

- Ski Vault
 Golf Caddy
 Fishing Quiver

3. Which product has the largest unit contribution margin?

- Ski Vault
 Golf Caddy
 Fishing Quiver

6.

value:
10.00 points

Georgian Ambience Ltd. makes fine colonial reproduction furniture. Upholstered furniture is one of its major product lines and the bottleneck on this production line is time in the upholstery shop. Upholstering is a craft that takes years of experience to master and the demand for upholstered furniture far exceeds the company's capacity in the upholstery shop. Information concerning three of the company's upholstered chairs appears below:

	Gainsborough Armchair	Leather Library Chair	Chippendale Fabric Armchair
Selling price per unit	\$ 1,300	\$ 1,800	\$ 1,400
Variable cost per unit	\$ 800	\$ 1,200	\$ 1,000
Upholstery shop time required to produce one unit	8 hours	12 hours	5 hours

Required:

1. More time could be made available in the upholstery shop by asking the employees who work in this shop to work overtime. Assuming that this extra time would be used to produce Leather Library Chairs, up to how much should the company be willing to pay per hour to keep the upholstery shop open after normal working hours? **(Omit the "\$" sign in your response.)**

Maximum amount payable per hour \$

2. A small nearby upholstering company has offered to upholster furniture for Georgian Ambience at a fixed charge of \$45 per hour. The management of Georgian Ambience is confident that this upholstering company's work is high quality and their craftsmen should be able to work about as quickly as Georgian Ambience's own craftsmen on the simpler upholstering jobs such as the Chippendale Fabric Armchair.

a. Should management accept this offer?

- Yes
 No

[check my work](#)



[eBook Link](#)



[View Hint #1](#)



[references](#)

7.

value:
10.00 points

Jackson County Senior Services is a nonprofit organization devoted to providing essential services to seniors who live in their own homes within the Jackson County area. Three services are provided for seniors—home nursing, Meals On Wheels, and housekeeping. In the home nursing program, nurses visit seniors on a regular basis to check on their general health and to perform tests ordered by their physicians. The Meals On Wheels program delivers a hot meal once a day to each senior enrolled in the program. The housekeeping service provides weekly housecleaning and maintenance services. Data on revenue and expenses for the past year follow:

	Total	Home Nursing	Meals On Wheels	House keeping
Revenues	\$ 900,000	\$ 260,000	\$ 400,000	\$ 240,000
Variable expenses	490,000	120,000	210,000	160,000
Contribution margin	410,000	140,000	190,000	80,000
Fixed expenses:				
Depreciation	68,000	8,000	40,000	20,000
Liability insurance	42,000	20,000	7,000	15,000
Program administrators' salaries	115,000	40,000	38,000	37,000
General administrative overhead*	180,000	52,000	80,000	48,000
Total fixed expenses	405,000	120,000	165,000	120,000
Net operating income (loss)	\$ 5,000	\$ 20,000	\$ 25,000	\$ (40,000)

*Allocated on the basis of program revenues.

The head administrator of Jackson County Senior Services, Judith Miyama, is concerned about the organization's finances and considers the net operating income of \$5,000 last year to be too small. (Last year's results were very similar to the results for previous years and are representative of what would be expected in the future.) She feels that the organization should be building its financial reserves at a more rapid rate in order to prepare for the next inevitable recession. After seeing the above report, Ms. Miyama asked for more information about the financial advisability of discontinuing the housekeeping program.

The depreciation in housekeeping is for a small van that is used to carry the housekeepers and their equipment from job to job. If the program were discontinued, the van would be donated to a charitable organization. Depreciation charges assume zero salvage value. None of the general administrative overhead would be avoided if the housekeeping program were dropped, but the liability insurance and the salary of the program administrator would be avoided.

Required:

1a. What is the impact on net operating income by discontinuing housekeeping program? **(Input the amount as a positive value. Omit the "\$" sign in your response.)**

Decrease ▼ in net operating income by \$ 28000

1b. Should the housekeeping program be discontinued?

- Yes
 No

2. Would a segmented income statement format be more useful to management in assessing the long-run financial viability of the various services.

- Yes
 No

8.

value:
10.00 points

Glade Company produces a single product. The costs of producing and selling a single unit of this product at the company's current activity level of 8,000 units per month are:

Direct materials	\$ 2.50
Direct labor	\$ 3.00
Variable manufacturing overhead	\$ 0.50
Fixed manufacturing overhead	\$ 4.25
Variable selling and administrative expenses	\$ 1.50
Fixed selling and administrative expenses	\$ 2.00

The normal selling price is \$15 per unit. The company's capacity is 10,000 units per month. An order has been received from a potential customer overseas for 2,000 units at a price of \$12.00 per unit. This order would not affect regular sales.

Required:

1. If the order is accepted, by how much will monthly profits increase or decrease? (The order would not change the company's total fixed costs.) **(Input the amount as a positive value. Omit the "\$" sign in your response.)**

Monthly profits would by \$

2. Assume the company has 500 units of this product left over from last year that are inferior to the current model. The units must be sold through regular channels at reduced prices. What unit cost is relevant for establishing a minimum selling price for these units? **(Round your answer to 2 decimal places. Omit the "\$" sign in your response.)**

Relevant cost per unit \$

[check my work](#)

[eBook Link](#)

[references](#)

9.

value:
10.00 points

Solex Company manufactures three products from a common input in a joint processing operation. Joint processing costs up to the split-off point total \$100,000 per year. The company allocates these costs to the joint products on the basis of their total sales value at the split-off point. These sales values are as follows: product X, \$50,000; product Y, \$90,000; and product Z, \$60,000.

Each product may be sold at the split-off point or processed further. Additional processing requires no special facilities. The additional processing costs and the sales value after further processing for each product (on an annual basis) are shown below:

Product	Additional Processing Costs	Sales Value after Further Processing
X	\$35,000	\$ 80,000
Y	\$40,000	\$ 150,000
Z	\$12,000	\$ 75,000

Required:

- a. Compute the incremental profit (loss) for each product. **(Loss amounts should be indicated with a minus sign. Omit the "\$" sign in your response.)**

	Product X	Product Y	Product Z
Incremental profit (loss)	\$ -5000	\$ 20000	\$ 3000

- b. Which product or products should be sold at the split-off point? **(You may select more than one answer. Single click the box with the question mark to produce a check mark for a correct answer and double click the box with the question mark to empty the box for a wrong answer.)**

- Product X
 Product Y
 Product Z

- c. Which product or products should be processed further? **(You may select more than one answer. Single click the box with the question mark to produce a check mark for a correct answer and double click the box with the question mark to empty the box for a wrong answer.)**

- Product X
 Product Y
 Product Z

10.

value:

10.00 points

Morrell Company produces several products from processing krypton, a rare mineral. Material and processing costs total \$30,000 per ton, one-third of which are allocated to the product merifulon. The merifulon produced from a ton of krypton can either be sold at the split-off point, or processed further at a cost of \$13,000 and then sold for \$60,000. The sales value of merifulon at the split-off point is \$40,000.

Required:

Should merifulon be processed further or sold at the split-off point?

- Should be sold at the split off point.
- Should be processed further.

[check my work](#)[eBook Link](#)[references](#)

Score:

100 out of 100 points (100%)