Multiple Choice Questions

1. A cost not relevant to deciding whether to purchase a new machine is:
   a) The cost of the new machine
   b) Lower maintenance costs for the new machine
   c) The cost of the old machine
   d) Additional training required for operating the new machine

2. A cost incurred in the past that cannot be changed by any future action is:
   a) Opportunity cost
   b) Sunk cost
   c) Relevant cost
   d) Avoidable cost

3. ABC Company is trying to decided if they should replace an old machine with a new machine. The following data was analyzed. The purchase of a new machine would have what effect on net income?

Cost savings per year on new machine	$100,000
New Machine Cost	$150,000
Revenue from sale of old machine	$10,000
Book Value of old machine	$25,000

   a) Net decrease of $15,000
   b) Net increase of $15,000
   c) Net decrease of $40,000
   d) Net increase of $40,000

4. It costs L Company $14 of variable costs and $6 of allocated fixed costs to produce an industrial trash can that sells for $30. A buyer in Mexico offers to purchase 3,000 units at $18 each. L Company has excess capacity and can handle the additional production. What effect will acceptance of the offer have on net income?
   a) Decrease $6,000
   b) Increase $6,000
   c) Increase $54,000
   d) Increase $12,000

5. W Company can make 1,000 toy robots with the following costs:

Direct materials	$70,000
Direct labor	26,000
Variable overhead	15,000
Fixed overhead	15,000

The company can purchase the 1,000 robots externally for $125,000. The avoidable fixed costs are $5,000 if the units are purchased externally. What is the cost savings if the company makes the robots?

a) $1,000
b) $5,000
c) $10,000
d) $4,000

6. What will be total net income if the hard rubber line is dropped?

a) $125,000
b) $103,000
c) $105,000
d) $140,000

7. W Company is operating at 75% of its manufacturing capacity of 140,000 product units per year. A customer has offered to buy an additional 20,000 units at $32 each. The following data are available:

Costs at 75% Capacity	Per Unit	Total
Direct materials	$12.00	$1,260,000
Direct labor	9.00	945,000
Overhead applied	15.00	1,575,000
Total	$36.00	$3,780,000

In producing 20,000 additional units, fixed overhead costs would remain at their current level but incremental variable overhead costs of $6 per unit would be incurred. What is the effect on income if Wade accepts this order?

a) Income will decrease by $4 per unit.
b) Income will increase by $4 per unit.
c) Income will increase by $5 per unit.
d) Income will increase by $11 per unit.

The next 2 questions refer to the following information:

M Company manufactures a cat food product called Special Export. M Company currently has 10,000 bags of Special Export on hand. The variable production costs per bag are $1.80 and total fixed costs are $10,000. The cat food can be sold as it is for $9.00 per bag or be processed further into Prime Cat Food and Feline Surprise at an additional $2,000 cost. The additional processing will yield 10,000 bags of Prime Cat Food and 3,000 bags of Feline Surprise, which can be sold for $8 and $6 per bag, respectively.

8. The net advantage (incremental income) of processing Special Export further into Prime and Feline Surprise would be:
   a) $98,000
   b) $96,000
   c) $8,000
   d) $6,000

9. If Special Export is processed further into Prime Cat Food and Feline Surprise, the total gross profit would be:
   a) $68,000
   b) $78,000
   c) $96,000
   d) $98,000

10. X Company has already incurred a $12,000 cost in partially producing its two products. Their selling prices when partially and fully processed are shown in the table below with the additional costs necessary to finish their processing. Based on this information, should any products be processed further?

Product	Unfinished Selling Price	Finished Selling Price	Further Processing Costs
A	$78	$325	$168
B	85	600	555

a) Both product A and product B should be processed further.
b) Neither product A nor product B should be processed further.
c) Only product B should be processed further.
d) Only product A should be processed further.

Practice Problems

Practice Problem #1

J Company is now making a small part used in one of its products. The unit costs of producing the part internally are:

Direct materials	$15.00
Direct labor	10.00
Variable manufacturing overhead	2.00
Fixed manufacturing overhead, traceable	4.00
Fixed manufacturing overhead, allocated	5.00
Unit product cost	$36.00

Depreciation of special equipment represents 75% of the traceable fixed manufacturing overhead cost with supervisory salaries representing the balance. The supervisory salaries could be avoided if production of the part were discontinued. An outside supplier has offered to sell the part to J Company for $30 each, based on an order of 5,000 parts per year.

Required: Should J Company accept this offer?

Practice Problem #2

T Company makes backpacking tents. It has the capacity to produce 10,000 tents per year and currently is producing and selling 7,000 tents. Normal selling price for a tent is $470. Unit-level costs are $100 for direct materials, $200 for direct labor, and $25 for other manufacturing costs. Facility-level costs of $80 are allocated to each tent. T Company has received a special order for 1,500 tents at $340 each.

Required: How much income will T Company make on the special order?

Practice Problem #3

V Company is trying to decide whether to replace a packing machine that it uses to pack pasta into serving size packages. The current machine requires $1,000 worth of repairs to be useful. If they purchase a new machine, there is potential to rent it out for $600 per year. The following information is available:

	Current Machine	New Machine
Original cost	$13,000	$8,000
Accumulated depreciation	8,000	
Annual operating costs	2,000	500
Current salvage value	700	

Required: Compute the increase or decrease in total net income over the five-year period if the company chooses to buy the new machine.

Practice Problem #4

C Company has two divisions whose most recent income statements are shown below:

	Commercial Division	Residential Division
Unit sales	10,000	2,000
Sales	$800,000	$200,000
Production costs	350,000	120,000
Depreciation expense, equipment	150,000	50,000
Traceable selling and administrative costs	80,000	20,000
Corporate office expenses	25,000	15,000
Net Income (Loss)	$195,000	($5,000)

Required: Compute the impact on profit if the Residential Division is eliminated.

Practice Problem #5

Y Company has already incurred $93,000 cost in partially producing its three products. Their selling prices when partially and fully processed are shown in the table below with the additional costs necessary to finish their processing.

Product	Unfinished Selling Price	Finished Selling Price	Further Processing Costs
A	$31.27	$62.37	$33.76
B	42.56	96.11	49.82
C	89.01	102.72	17.29

Required: Based on this information, should any products be processed further?

Solutions

1.	C
2.	B
3.	C
4.	D
5.	D
6.	B
7.	C
8.	D
9.	A
10.	D

Solution #1

Direct materials	$15.00	
Direct labor	10.00	
Variable manufacturing overhead	2.00	
Fixed manufacturing overhead, traceable	1.00	
Purchase price		$30.00
Unit product cost	$28.00	$30.00
Units produced	5,000	5,000
Total cost	$140,000	$150,000

Difference in favor of making: $10,000. The depreciation on the equipment and common fixed overhead are not avoidable costs.

Solution #2

Differential revenues 1,500 x $340 =	1500*340	$510,000
Variable costs:		
Materials	100*1500	150,000
Labor	200*1500	300,000
Other manufacturing costs	25*1500	37,500
Differential income (loss)		22,500

The special order would cause income to increase by $22,500; based on this information, it should be accepted. Facility level costs are irrelevant.

Solution #3

	Retain Machine	Purchase Machine	Net Income Increase (Decrease)
Original cost		$8,000	($8,000)
Repair costs	1,000		$1,000
Annual operating costs	10,000	2500	$7,500
Current salvage value		-700	$700
Rental Revenue		-3000	$3,000
			$4,200

Management should purchase the new machine.

Solution #4

	Commercial Division	Residential Division	Company Totals
Unit sales	10,000		10,000
Sales	$800,000		800,000
Production costs	350,000		350,000
Contribution Margin	450,000		450,000
Depreciation expense, equipment	150,000	50,000	200,000
Traceable selling and administrative costs	80,000		80,000
Corporate office expenses	25,000	15,000	40,000
Net Income (Loss)	$195,000	($65,000)	130,000

Management should keep the residential division.

Solution #5

	Product A	Product B	Product C
Finished selling price	$62.37	$96.11	$102.72
Unfinished selling price	31.27	42.56	89.01
Incremental selling price	31.10	53.55	13.71
Further processing costs	33.76	49.82	17.29
Incremental profit (loss)	(2.66)	3.62	(3.58)

Only Product B should be processed further as it has a positive incremental profit.