

## Chapter 7: Practice Questions

1. Wagner Company sells product A at a selling price of \$21 per unit. Wagner's cost per unit based on the full capacity of 200,000 units is as follows:

Direct materials	\$ 4
Direct labour	5
Overhead (two-thirds of which is fixed)	6

A special order offering to buy 20,000 units was received from a foreign distributor. The only selling costs that would be incurred on this order would be \$3 per unit per shipping. Wagner has sufficient existing capacity to manufacture the additional units. In negotiating a price for the special order, Wagner should consider that the minimum selling price per unit should be:

- a. \$14
- b. \$15
- c. \$16
- d. \$18
- e. None of the above

2. Fraser Company has the capacity to produce 150,000 motors per year. The company is presently producing and selling 130,000 motors per year at a selling price of \$40 per motor. The cost of producing one motor at the 130,000-unit level of activity is given below:

	Per motor
Direct material	\$16
Direct labour	8
Factory overhead	10
Total cost	\$34

The company has a special order for 10,000 motors at a price of \$33 each. Variable selling and administrative costs on the special order would be \$2 per motor. The company's fixed overhead costs total \$780,000 per year. Acceptance of the special order would have the following effect on the company's net income:

- a. \$30,000 decrease
- b. \$30,000 increase
- c. \$10,000 decrease
- d. \$10,000 increase
- e. None of the above

3. The maximum productivity capacity of Jeydan Company's facilities is 30,000 units of product per year. The forecasted operating results for the year 2010 before any special orders are as follows:

Sales (18,000 units @ \$100)	\$1,800,000
Variable manufacturing and selling costs	990,000
Contribution Margin	810,000
Fixed Costs	495,000
Operating Income	\$ 315,000

A foreign distributor has offered to buy 15,000 units of Jeydan Company's product at \$90 per unit in 2010. What would be the effect of accepting this special offer and rejecting some business from its regular customers (due to the limited productive capacity indicated above) on NI for 2010?

- a. \$390,000 increase
- b. \$705,000 increase
- c. \$840,000 increase
- d. \$855,000 increase
- e. None of the above

4. Argus Company, a manufacturer of lamps, budgeted sales of 400,000 lamps at \$20 per unit for 2010. Variable manufacturing costs were budgeted at \$8 per unit, and fixed manufacturing costs at \$5 per unit. A special order offering to buy 40,000 lamps for \$11.50 each was received by Argus in April 2010. Argus has sufficient plant capacity to manufacture the additional quantity of lamps; however, the production would have to be done by the present work force on an overtime basis at an estimated additional cost of \$1.50 per lamp. Argus will not incur any selling expenses as a result of the special order. What would be the effect on operating income if the special order could be accepted without affecting normal sales?

- a. \$60,000 decrease
- b. \$80,000 decrease
- c. \$120,000 decrease
- d. \$140,000 increase
- e. None of the above.

5. The following are Sails Unlimited's unit costs of making and selling a jib at an output of 1,000 jibs per month (which represents the firm's capacity).

	<u>Unit Costs</u>
<u>Manufacturing:</u>	
Direct Materials	\$10.00
Direct Labor	20.00
Variable Overhead	5.00
Fixed Overhead	4.00
 <u>Selling and Administrative:</u>	
Variable	\$20.00
Fixed	8.00

Currently, Sails Unlimited is selling 800 jibs monthly in the United States. An order has been received from a retailer in Mexico for 100 jibs with a special America's Cup emblem. Although the order would not affect current sales in the United States, it would require the purchase of a specialized printing tool at \$250 (salvage value of \$50). Also, variable selling and administrative costs for this order would only be 50% of normal. If Sails Unlimited accepts this special order and receives \$5,200 for it, the effect on Sails Unlimited's net income would be:

- a. An increase of \$1,300
- b. An increase of \$500
- c. A decrease of \$1,500
- d. A decrease of \$500
- e. None of the above amounts are correct.

6. Assuming there is no effect on the other products of a company, a product line should be discontinued if:

- a. The fixed costs which can be avoided by discontinuing the line are less than the contribution margin which will be lost.
- b. The fixed costs which can be avoided by discontinuing the line are greater than the contribution margin which will be lost.
- c. The product line segment margin is negative.
- d. The variable costs that will be avoided by discontinuing the line are greater than the contribution margin that will be lost.
- e. None of the above.

7. Omega Co. produces two products, A and B. During June, Omega Co. has 10,000 machine hours of capacity. Costs for the production of A and B are as follows:

	<u>A</u>	<u>B</u>
Selling price/unit	\$10	\$15
Variable expenses/unit	5	7
Machine hours per unit	5	4

Omega Co. estimates that they can sell at most 1,500 units of each product. Calculate the max. income from the optimal mix, if the company has only 10,000 machine hours in June.

- a. \$16,000.
- b. \$13,000.
- c. \$10,000.
- d. \$20,000.
- e. None of the above

8. You have an opportunity to purchase a new machine for \$100,000. Your old machine's original cost was \$150,000 and has a trade in value equal to its current salvage value of \$10,000. Currently your annual operating costs are \$40,000. The salesman who sells the machine estimates that you can save 30% on your operating costs. The estimated life of both machines is 10 years, at which time both machines will have zero salvage value. The effect of buying the new machine would be: \_\_\_\_\_ over the ten years.

- a. a savings of \$30,000.
- b. an added expense of \$30,000.
- c. a savings of \$20,000.
- d. an added expense of \$20,000.
- e. None of the above.

9. The manager of Think-Smart, Inc. is considering a proposal to replace a machine currently used in production with a new one at a cost of \$700,000. The following yearly comparative data has been gathered:

	New machine	Old machine
Units to be processed	<u>50,000</u>	<u>50,000</u>
Cash operating expenses	\$200,000	\$280,000
Straight-line depreciation expenses	60,000	20,000
Total costs	\$260,000	\$300,000

The old machine has a current book value of \$300,000, and a current salvage value of \$250,000. Both machines have comparable remaining service lives of four years and have expected salvage values at the end of their service lives of \$10,000. (Ignore income taxes and the time value of money) What is the net advantage (disadvantage) of replacing the old machine?

- a. \$80,000
- b. (\$500,000)
- c. (\$130,000)
- d. (\$380,000)
- e. None of the above.

10. Gandy Company has 5,000 obsolete desk lamps that are carried in inventory at a manufacturing cost of \$50,000. If the lamps are reworked for \$20,000, they could be sold for \$35,000. Alternatively, the lamps could be sold for \$8,000 to a jobber located in a distant city. In a decision model analyzing these alternatives, the sunk cost would be:

- a. \$8,000
- b. \$15,000
- c. \$20,000
- d. \$50,000
- e. None of the above.

11. With respect to the decision to replace old equipment, which of the following items is relevant?

- a. Book value of old equipment.
- b. Original purchase cost of old equipment.
- c. Gain or loss on disposal of old equipment.
- d. Disposal value of old equipment.
- e. None of the above

12. Plainfield Company manufactures Part G for use in its production cycle. The costs per unit for 10,000 units of Part G are as follows:

Direct materials	\$ 3
Direct labour	15
Variable overhead	6
Fixed overhead	8

Verona Company has offered to sell Plainfield 10,000 units of Part G for \$30 per unit. If Plainfield accepts Verona's offer, the released facilities could be used to save \$45,000 in relevant costs in the manufacture of Part H. In addition, \$5 per unit of the fixed overhead applied to Part G would be totally eliminated. What alternative is more desirable and by what amount is it more desirable?

Alternative	Amount
a. Manufacture	\$10,000
b. Manufacture	\$15,000
c. Buy	\$35,000
d. Buy	\$65,000
e. None of the above	

13. Pat Co. manufactures pocket calculators. Pat Co. Frequently subcontracts work to other manufacturers, depending on whether Pat Company's facilities are fully utilized. A key component is Part A76 which costs as follows:

<u>Total Cost of 10,000 units</u>	
Direct material	\$20,000
Direct labor	15,000
Variable factory overhead	18,000
Fixed factory overhead	<u>35,000</u>
	\$88,000

Another manufacturer has offered to sell the same part to Pat Co. for \$8 each. Of the fixed factory overhead costs, \$15,000 could be avoided if the component were purchased. Further, if the component is purchased, the released capacity could be rented to another company for \$8,000 per year. How different will operating income be if Pat co. buys the part?

- \$3,000 increase.
- \$80,000 decrease.
- \$4,000 decrease.
- \$3,000 decrease.
- None of the above.

14. Dauntless Company has an annual plant capacity of 13,000 product units. Predicted operations for the year are summarized:

Sales (10,000 units)	\$840,000
<u>Manufacturing costs:</u>	
Fixed	\$330,000
Variable	\$64 per unit
<u>Selling and administrative expenses:</u>	
Fixed	\$90,000
Variable (advertising)	\$10 per unit

If the company accepts a special order from a customer for 1,000 units at a selling price of \$78, there will be no effect at all on regular sales at regular prices. No advertising expense will be required for the special order, but a special promotion cost of \$18,000 will be required. Compute the total amount of the increase or decrease in the company's budgeted operating income that would be caused by the acceptance of this order.

- a. Increase of 4,000
- b. Decrease of 6,000
- c. Decrease of 4,000
- d. Increase of 6,000
- e. None of the above

15. Mr. Numby makes a special product for the space industry. The cost of manufacturing the timer for this product is:

Material	\$3.00
Labour	2.80
Fixed overhead	0.70
Variable overhead	<u>1.00</u>
	\$7.50

Numby has investigated the possibility of buying this product from a subcontractor and has been quoted a price of \$6.65 per unit. The relevant cost of manufacturing to be considered in deciding whether to buy the component or manufacture it is:

- a. \$5.80
- b. \$6.50
- c. \$6.80
- d. \$7.50
- e. None of the above

16. Maxwell, Ltd. has each month 2,400 hours of plant capacity for making two products, M and N, each with variable costs per unit of \$30. Selling prices are \$50 for M and \$60 for N. Four units of M can be produced per hour or three units of N can be produced per hour. Compute the number of plant hours that should be used each month to manufacture M in order to earn the highest profit.

- a. None
- b. 960
- c. 1,440
- d. 2,400

17. Motor Company manufactures 10,000 units of Part M-1 for use in its production annually. The following costs are reported:

Direct materials	\$ 20,000
Direct labour	55,000
Variable overhead	45,000
Fixed overhead	<u>70,000</u>
	\$190,000

Valve Company has offered to sell Motor 10,000 units of Part M-1 for \$18 per unit. If Motor accepts the offer, some of the facilities presently used to manufacture Part M-1 could be rented to a third party at an annual rental of \$15,000. Additionally, \$4 per unit of the fixed overhead applied to Part M-1 would be totally eliminated. Should Motor accept Valve's offer, and why?

- a. No, because it would be \$5,000 cheaper to make the part.
- b. Yes, because it would be \$10,000 cheaper to buy the part.
- c. No, because it would be \$15,000 cheaper to make the part.
- d. Yes, because it would be \$25,000 cheaper to buy the part.
- e. None of the above.

18. XYZ Co. produces three products A, B, and C. During January 2010, XYZ Co. has 10,000 machine hours of capacity. The following data are given:

	A	B	C
Selling price per unit	10	15	20
Variable costs per unit	6	12	15
Machine hours per unit	2	3	4

XYZ estimates that they can sell at the most 2,000 units of A, 4,000 units of B, and 4,000 units of C. Calculate the maximum income that XYZ can achieve from using the 10,000 machine hours in January 2010.

- a. \$40,000
- b. \$12,500
- c. \$ 6,250
- d. \$15,500
- e. None of the above

19. Krown Company has a used machine with a net book value of \$270,000 and a present scrap (cash) value of \$63,000. A new machine that is available at a price of \$225,000 has the same capacity, but it would reduce direct labour costs by \$18,000 per year. Neither machine will have a scrap value at the end of its useful life. Income taxes and the time-value of money are to be ignored in this problem. As of now both machines have an estimated life of eight years. As an alternative to keeping the old machine, its replacement with the new machine would have what total advantage or disadvantage, that is what the effect is if we replace the old machine?

- a. An advantage of 18,000
- b. A disadvantage of 18,000
- c. An advantage of 12,000
- d. A disadvantage of 12,000
- e. The decision maker is indifferent between both machine

20. Reinstein decided to complete a fifth year of college instead of accepting a job with a public accounting firm at a beginning salary of \$18,000 for the first year of employment. The tuition, food books, supplies and other direct costs of the extra year of college are estimated to be \$8,000. Living expenses would be about \$9,000 per year for either situation. The opportunity cost of Reinstein's decision to attend college was

- a. \$8,000
- b. \$10,000
- c. \$18,000
- d. \$26,000
- e. None of the above.

QUESTION NO.	ANSWER
1	A
2	B
3	A
4	E
5	B
6	B
7	A
8	A
9	C
10	D
11	D
12	C
13	C
14	C
15	C
16	A
17	A
18	D
19	B
20	C