

**TRUE/FALSE**

1. Purchasing can be broadly classified into two categories: merchants and industrial buyers.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-1      Bloom's: Knowledge                      Difficulty: Easy

2. Merchants primary task is to purchase raw materials for conversion purposes.

ANS: F                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-1      Bloom's: Knowledge                      Difficulty: Easy

3. A low ROA suggests that management is capable of generating large profits with relatively small investments.

ANS: F                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-1      Bloom's: Comprehension                      Difficulty: Easy

4. The procedures for public procurement differ from the private sector.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Comprehension                      Difficulty: Easy

5. Cost savings is an advantage of using an e-procurement system.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Knowledge                      Difficulty: Easy

6. The goal of a good purchasing system is to ensure efficient information transitions between the materials users, the purchasing personnel, and the suppliers.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Knowledge                      Difficulty: Easy

7. The purchase order is *NOT* a legally binding contract until it is accepted by the supplier.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Knowledge                      Difficulty: Easy

8. A material requisition and a purchase requisition are the same thing.

ANS: T                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Knowledge                      Difficulty: Easy

9. A follow-up is considered a reactive approach to speed up an overdue shipment.

ANS: F                                      PTS: 1  
BUSPROG: Analytic                      LO: 2-2      Bloom's: Knowledge                      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-3      Bloom's: Knowledge      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-3      Bloom's: Knowledge      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-4      Bloom's: Comprehension      Difficulty: Easy

- ANS: F                      PTS: 1  
BUSPROG: Reflective Thinking      LO: 2-4              Bloom's: Analysis              Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-4      Bloom's: Comprehension      Difficulty: Easy

- ANS: F                      PTS: 1  
BUSPROG: Analytic       LO: 2-5       Bloom's: Analysis       Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-5      Bloom's: Knowledge      Difficulty: Easy

- ANS: F                      PTS: 1  
BUSPROG: Analytic      LO: 2-6      Bloom's: Knowledge      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Analytic      LO: 2-7      Bloom's: Comprehension      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Diversity      LO: 2-8      Bloom's: Comprehension      Difficulty: Easy

- ANS: T                      PTS: 1  
BUSPROG: Diversity      LO: 2-8      Bloom's: Comprehension      Difficulty: Easy

- ANS: D                      PTS: 1  
BUSPROG: Analytic       LO: 2-1       Bloom's: Knowledge       Difficulty: Easy

- ANS: B                      PTS: 1  
BUSPROG: Analytic       LO: 2-1       Bloom's: Knowledge       Difficulty: Easy

- ANS: A                      PTS: 1  
BUSPROG: Analytic       LO: 2-1       Bloom's: Comprehension       Difficulty: Easy

- ANS: A                      PTS: 1  
BUSPROG: Analytic       LO: 2-1       Bloom's: Knowledge       Difficulty: Easy

5. Which type of requisition is used for materials and standard parts that are requested on a recurring basis?
  - a. Open requisition

- ANS: C                      PTS: 1  
BUSPROG: Analytic       LO: 2-2       Bloom's: Knowledge       Difficulty: Easy

- ANS: C                      PTS: 1  
BUSPROG: Analytic       LO: 2-2       Bloom's: Knowledge       Difficulty: Easy

- ANS: A                      PTS: 1  
BUSPROG: Analytic       LO: 2-2       Bloom's: Knowledge       Difficulty: Easy

- ANS: C                      PTS: 1  
BUSPROG: Analytic       LO: 2-2       Bloom's: Comprehension       Difficulty: Easy

- ANS: D                      PTS: 1  
BUSPROG: Analytic              LO: 2-2      Bloom's: Knowledge      Difficulty: Easy

- ANS: C                      PTS: 1  
BUSPROG: Analytic       LO: 2-3       Bloom's: Knowledge       Difficulty: Easy

- a. Computers
- b. Heavy equipment
- c. Custom built components
- d. Office supplies

ANS: D PTS: 1  
 BUSPROG: Analytic LO: 2-3 Bloom's: Knowledge Difficulty: Easy

12. Which of the following is a reason small value purchases are handled differently?
- a. To give the buyer additional supplier choices
  - b. To obtain a higher quality product
  - c. To have better tracking of material usage
  - d. To control unnecessary administrative costs

ANS: D PTS: 1  
 BUSPROG: Analytic LO: 2-3 Bloom's: Comprehension Difficulty: Easy

13. Which of the following illustrates Forward Vertical Integration?
- a. Microsoft starting a new division that designs and manufactures clothing
  - b. Ford automotive buying additional machines for production
  - c. Subway sandwich company buying a bakery to make the bread for their sandwiches.
  - d. Sony buying trucks to deliver their finished goods inventories to their customers' warehouses

ANS: D PTS: 1  
 BUSPROG: Analytic LO: 2-4 Bloom's: Comprehension Difficulty: Easy

14. Which of the following would be a good reason to outsource (buy) versus making?
- a. To utilize existing capacity within a company's own firm
  - b. A firm lacks the technology or expertise to produce an item
  - c. To have more direct control over the design and production of an end item
  - d. No competent supplier presently produces the needed item

ANS: B PTS: 1  
 BUSPROG: Analytic LO: 2-4 Bloom's: Knowledge Difficulty: Easy

15. Given the following make-buy information, what would be the break-even point?

|                | <b>Make Option</b> | <b>Buy Option</b> |
|----------------|--------------------|-------------------|
| Fixed Costs    | \$5500             | \$1500            |
| Variable Costs | \$ 4               | \$ 9              |

- a. 1200 units
- b. 1708 units
- c. 800 units
- d. 460 units

ANS: C PTS: 1  
 BUSPROG: Analytic LO: 2-4 Bloom's: Application Difficulty: Moderate

16. Given the following make-buy information, what would be the break-even point?

|                | <b>Make Option</b> | <b>Buy Option</b> |
|----------------|--------------------|-------------------|
| Fixed Costs    | \$16000            | \$1400            |
| Variable Costs | \$ 6               | \$ 10             |

- 9170 units
- 3650 units
- 1040 units
- 2750 units

ANS: B

PTS: 1

BUSPROG: Analytic

LO: 2-4

## Bloom's: Application

Difficulty: Moderate

17. As firms seek to improve the products they offer to the market, companies are seeking help from their suppliers in new product design and development through:
  - a. Supplier certification programs
  - b. Manufacturer certification programs
  - c. Early supplier involvement
  - d. Total Cost of Ownership initiatives

ANS: C

PTS: 1

## BUSPROG: Analytic

LO: 2-4

## Bloom's: Knowledge

Difficulty: Easy

18. Firms can use total cost analysis to:
  - a. See how efficiently management is using its total assets to generate profits
  - b. Select the most cost-effective supplier
  - c. Show how many times a firm's inventory is utilized and replaced over an accounting period
  - d. Brainstorm and isolate the causes of a problem

ANS: B

PTS: 1

BUSPROG: Analytic

LO: 2-5

## Bloom's: Comprehension

Difficulty: Easy

19. Total Cost of Ownership does *NOT* consider which of the following factors?
- Purchase order costs
  - Freight costs
  - Payment terms
  - Tooling costs

ANS: A

PTS: 1

BUSPROG: Analytic

LO: 2-5

### Bloom's: Comprehension

Difficulty: Easy

20. The total cost of ownership for Supplier A is \$2,670,000. The total cost of ownership for Supplier B is \$1,750,000. The total cost of ownership for Supplier C is \$2,990,000. Using Total Cost Analysis, it will be more cost-effective to use
- Supplier A
  - Supplier B
  - Supplier C
  - Cannot be determined

ANS: B

PTS: 1

BUSPROG: Analytic

LO: 2-5

### Bloom's: Comprehension

Difficulty: Easy

21. Which of the following is a reason for favoring single sourcing?
  - a. Encourages competition among suppliers
  - b. Spreads the risk of supply interruption
  - c. Reduces variabilities in quality levels
  - d. Reduces information about new processing technologies

PTS: 1

LO: 2-6

## Bloom's: Knowledge

Difficulty: Easy

22. Which of the following is a reason that single sourcing is considered risky/bad?
- There could be supplier interruptions due to political instability
  - It could establish close relationships with the supplier
  - Larger orders make quantity discounts more likely
  - Decreases the item to item quality variability of items purchased

PTS: 1

LO: 2-6

## Bloom's: Comprehension

Difficulty: Easy

23. Which of the following is an advantage of a centralized purchasing department?
- a. Less bureaucracy
  - b. More frequent shipments
  - c. Specialization
  - d. Closer contact between buyer and user

PTS: 1

LO: 2-7

## Bloom's: Knowledge

Difficulty: Easy

24. Which of the following statements is FALSE?
- a. Centralized purchasing is where individual, local purchasing departments, such as at the plant level, make their own purchasing decisions.
  - b. Electronic procurement systems can aid a company in saving both time and money.
  - c. More than 50% of each sales dollar typically goes towards covering supply chain costs.
  - d. If a firm lacks the technology to make a required component they will need to consider buying/outsourcing.

PTS: 1

LO: 2-7

## Bloom's: Bloom's: Comprehension

Difficulty: Easy

25. Which of the following is *NOT* a potential challenge for global sourcing?
- a. Long delivery lead times
  - b. Costs involved in selecting foreign suppliers
  - c. Relaxed trade barriers
  - d. Labor and legal problems

PTS: 1

LO: 2-8

## Bloom's: Comprehension

Difficulty: Easy

26. Which of the following is NOT a form of countertrade?
- a. Barter
  - b. Kaizen blitz
  - c. Offset
  - d. Counterpurchase

PTS: 1

LO: 2-8

## Bloom's: Knowledge

Difficulty: Easy

27. Which of the following NOT a reason firms are expanding their supply bases to include foreign suppliers?
- a. Lower shipping rates due to lower tariffs
  - b. Lower product cost
  - c. Better product quality

d. Overseas supplier holding the patent to the product

ANS: A

PTS: 1

BUSPROG: Analytic

LO: 2-8

Bloom's: Comprehension

Difficulty: Easy

## SHORT ANSWER

1. When using the Total Cost of Ownership concept, explain how a supplier with a higher unit price and higher tooling cost can end up being more cost effective than another supplier with a lower unit price and tooling cost.

ANS:

When calculating the Total Cost of Ownership, unit price and tooling cost are not the only criterion used in supplier selection. Other qualitative and quantitative factors, including freight and inventory costs, tariffs and duties, currency exchange fees, payment terms, maintenance and nonperformance costs should be considered. After calculating these other factors, the Total Cost of Ownership may have been lower with the second supplier.

PTS: 5

BUSPROG: Communication LO:

2-5

Bloom's: Application

Difficulty: Moderate

2. Use what you understand about the outsourcing decision (Make vs. Buy) to answer this question. List and explain three reasons a restaurant might decide to buy pre-made desserts from a supplier rather than making the goods from scratch.

ANS:

Reasons a person might buy a restaurant might decide to buy pre-made desserts from a supplier.

- a. Cost – Creating a high-quality dessert might require unusual, as well as, a large number of ingredients. They may not be able to take advantage of economies of scale, if they do not sell a lot of desserts. It also may be quite costly to hire a specialist to make the desserts.
- b. Insufficient Capacity – A restaurant may not have the capacity to make fresh desserts daily to fulfill the demand. They might not be able to offer a large selection of desserts.
- c. Lack of expertise – The restaurant personnel may not know how to make specialized desserts. Or perhaps it is difficult to hire a dessert specialist.
- d. Quality – While they may have the time, money, and skill to make desserts, they may not be able to make them as well as a place which specializes in desserts.

Similar answers with slightly different rationale may also be acceptable.

PTS: 5

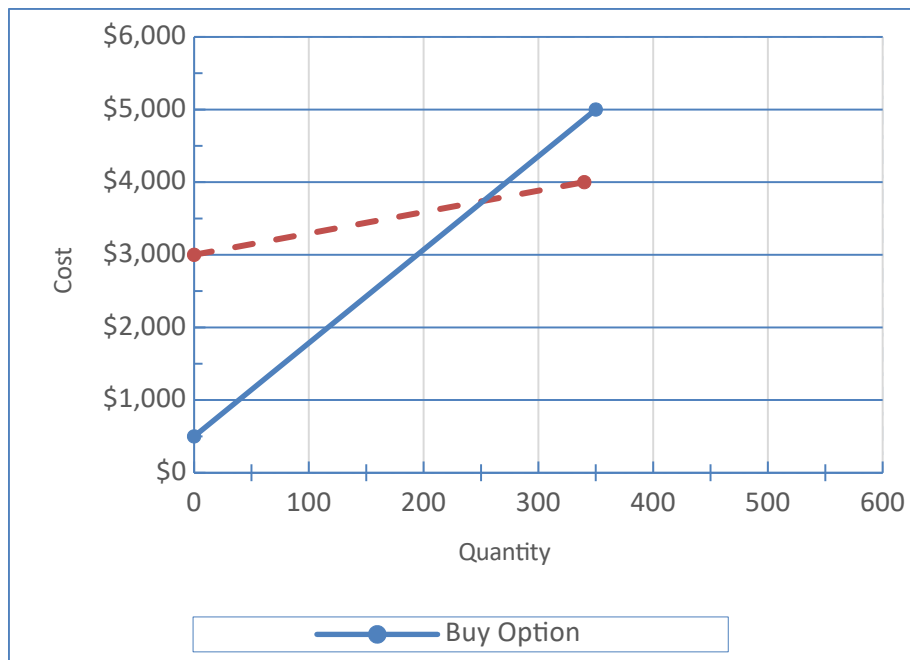
BUSPROG: Communication LO:

2-4

Bloom's: Application

Difficulty: Moderate

3. Answer the questions that follow, based on the diagram provided below



- What are the fixed costs for the buy decision?
- What is the breakeven quantity for the two options illustrated?
- At  $Q = 300$ , would you choose the make or buy option? Why?
- At  $Q = 200$ , what will be the total cost associated with the best decision at this quantity?

ANS:

- What are the fixed costs for the buy decision?*  
\$500
- What is the breakeven quantity for the two options illustrated?*  
The Break-even quantity seems to be near 250 units. Using this chart, anything within 230 and 270 would probably be deemed acceptable.
- At  $Q = 300$ , would you choose the make or buy option? Why?*  
The make option is better since the total costs for making are about \$3900 versus about \$4400 for buying.
- At  $Q = 200$ , what will be the total cost associated with the best decision at this quantity?*  
The best decision is to buy, and the total cost is slightly over \$3000.

PTS: 5

BUSPROG: Analytic

LO: 2-4

Bloom's: Analysis

Difficulty: Moderate

- Global sourcing has become commonplace. Many companies now consider expanding their supply base to include foreign suppliers. List three reasons why companies choose to source globally.

ANS:

Lower price of materials (and services)

Overseas products may be of higher quality

Faster delivery times

Better array of services offered by the material supplier

Favorable exchange rates

Support local economies  
Countertrade contracts

PTS: 5

BUSPROG: Diversity LO: 2-4 Bloom's: Comprehension Difficulty: Moderate

## ESSAY

1. The BOEHM Cell Phone Company has developed a new series of phones that it plans to bring to the market in the next 18 months. Management is considering whether to produce the product in-house or to contract out the purchasing and manufacturing of their new cell phones.

Provide FOUR conditions that would favor outsourcing and FOUR conditions that would favor making the cell phones in-house.

ANS:

Conditions that favor outsourcing:

- a. If other firms are offering cost advantages.
- b. If Boehm Cell Phone does not have sufficient capacity to meet the expected demand for the new line of cell phones.
- c. Perhaps Boehm is largely a design company that does not have expertise in purchasing and manufacturing. An outside firm might be better qualified to deliver a high quality product at a lower price.
- d. Outside companies may offer higher quality due to advantages in areas of skill, technology, and business processes.

Conditions that favor making the cell phones in-house:

- a. If the technology associated with the new lines of phones is proprietary, it may be easier to maintain secrecy in both manufacturing and in first-to-market marketing.
- b. Perhaps no one is capable of producing this product or a necessary component.
- c. If the firm feels that its quality programs are superior to any potential business partner, they may prefer to do it themselves to preserve the integrity of the brand.
- d. The company expects manufacturing capacity to be available once the product goes into production.
- e. If the company prefers to have more control over distribution related activities.
- f. If the company has the capability to produce the product at a lower cost if advantages in supply chain capabilities and/or economies of scale exist.

PTS: 10

BUSPROG: Communication LO: 2-4 Bloom's: Application Difficulty: Difficult

2. Under which conditions would you most likely utilize a centralized purchasing system? List two advantages that would be gained by utilizing a centralized purchasing system.

Under which conditions would you most likely utilize a decentralized purchasing system? List two advantages that would be gained by utilizing a decentralized purchasing system.

ANS:

*Under which conditions would you most likely utilize a centralized purchasing system?*

A centralized purchasing system would be favored by a company that is looking to reduce safety stocks, increase control in purchasing, centralize decision making, avoid duplicate purchases, centrally manage supplier relationships, and maximize available quantity discounts.

*List two advantages that would be gained by utilizing a centralized purchasing system.*

- a. Concentration of purchasing leading to lower purchase costs
- b. Avoiding duplication of job functions
- c. Buyer specialization
- d. Lower transportation costs
- e. Easier to negotiate contracts and manage relationships with a common supplier base
- f. No competition between units when purchasing the same material

*Under which conditions would you most likely utilize a decentralized purchasing system?*

A decentralized purchasing system would be favored by a company that is looking to make quicker decisions, maintain stocks that are closer to their customers, and identify and respond to changing customer needs at the local level.

*List two advantages that would be gained by utilizing a decentralized purchasing system.*

- a. Individual and decentralized buyers often have a greater knowledge of the exact needs for each individual unit utilized by organization.
- b. Decentralization is more conducive to local sourcing. Local sourcing offers an organization the opportunity to obtain faster delivery times, more frequent deliveries, while still maintaining very close supplier ties.
- c. Decentralization allows quicker response because the decentralized purchasing allows for faster decisions because of decreased bureaucracy.

PTS: 10

BUSPROG: Communication LO: 2-7 Bloom's: Comprehension Difficulty: Moderate

3. The term Supply Management is used to describe responsibilities above and beyond those of traditional purchasing. What are three of these key activities and why are they considered important to Supply Management?

ANS:

Other answers are possible.

- a. Supply Management is responsible for the uninterrupted flow of raw materials
- b. Supply Management is responsible for the acquisition of materials at lowest total cost
- c. Supply Management is responsible for improving the quality of finished goods through the purchase of high-quality components and/or raw materials.
- d. Modern supply chains require close partnerships with suppliers; Supply Management departments are very often responsible for maintaining those relationships
- e. Pushing suppliers to improve the quality of their raw materials and/or components
- f. Supply Management departments are often responsible for assisting in collapsing design-to-production cycle time
- g. Supply Management departments are often seen as a conduit between external suppliers and internal design and/or operations people.

PTS: 10

BUSPROG: Communication LO: 2-1 Bloom's: Comprehension Difficulty: Moderate

4. Use the following information to determine which supplier for steering wheels is more cost-effective using total cost analysis. Late delivery of the component results in 50% lost sales and 50% back orders of finished goods.

Table 1

|                             |               |
|-----------------------------|---------------|
| Order lot size              | 400           |
| Annual Requirements         | 4,800 units   |
| Weight per steering wheel   | 20 pounds     |
| Order processing cost       | \$125         |
| Inventory carrying rate     | 20% per year  |
| Cost of working capital     | 10% per year  |
| Profit margin               | 20%           |
| Price of finished golf cart | \$5,000       |
| Back order cost             | \$15 per unit |

Table 2

| Unit Price                        | Supplier A  | Supplier B   |
|-----------------------------------|-------------|--------------|
| 1 to 999 units/order              | \$48        | \$47         |
| 1000 to 2,999 units/order         | \$47        | \$46         |
| Tooling cost                      | \$1000      | \$1000       |
| Terms                             | 2/10 net 30 | 1/10, net 30 |
| Distance                          | 120 miles   | 100 miles    |
| Supplier Quality Rating (defects) | 3%          | 2%           |
| Supplier Delivery Rating (late)   | 1%          | 2%           |

Here is the freight rates for

Truckload (TL  $\geq$  40,000 lbs): \$0.90 per ton-mile

Truckload Less-than-truckload (LTL): \$1.10 per ton-mile

Note: per ton-mile = 2,000 lbs. per mile; number of days per year = 365

Answer:

Total cost of ownership = Total steering wheel cost - Cash Discount + Tooling cost + Transportation cost + Ordering cost + Carrying Cost + Quality cost + Delivery rating (Back Order Cost and Lost Sales).

#### Supplier A

Total steering wheel cost =  $4800 \times 48 = \$230,400$

- Cash Discount A =  $230,400 \times (10\% \times 30/365) = \$1894$

- Cash Discount B =  $230,400 \times (10\% \times 10/365 + 2\%) = \$5239$  use this for biggest savings

+ Tooling cost = 1000

+ Transportation cost =  $(400 \times 20) = 80000$  so must use LTL shipment at \$1.10 per ton-mile  
 $120 \times 4800 \times 20 \times 1.10/2000 = 6336$

+ Ordering cost =  $(4800/400) \times 125 = \$1500$

+ Carrying Cost =  $(400/2) \times 48 \times 20\% = \$1920$

+ Quality cost =  $230,400 \times 3\% = \$6912$

+ Delivery rating - Back order cost (50%) =  $4800 \times 1\% \times 50\% \times 15 = \$360$

Lost Sales (50%) =  $4800 \times 1\% \times 50\% \times 5000 \times 20\% = \$24,000$

Total cost of ownership =  $230,400 - 5239 + 1000 + 6336 + 1500 + 1920 + 6912 + 360 + 24000 = \$267,189$

#### Supplier B

Total steering wheel cost =  $4800 \times 47 = \$225,600$

- Cash Discount A =  $225,600 \times (10\% \times 30/365) = \$1854$

- Cash Discount B =  $225,600 \times (10\% \times 10/365 + 2\%) = \$5130$  use this for biggest savings

+ Tooling cost = 1000

+ Transportation cost =  $(400 \times 20) = 80000$  so must use LTL shipment at \$1.10 per ton-mile

$$100 \times 4800 \times 20 \times 1.10/2000) = 5280$$

$$+ \text{Ordering cost} = (4800/400) \times 125 = \$1500$$

$$+ \text{Carrying Cost} = (400/2) \times 47 \times 20\% = \$1880$$

$$+ \text{Quality cost} = 225,600 \times 2\% = \$4512$$

$$+ \text{Delivery rating - Back order cost (50\%)} = 4800 \times 2\% \times 50\% \times 15 = \$720$$

$$\text{Lost Sales (50\%)} = 4800 \times 2\% \times 50\% \times 5000 \times 20\% = \$48,000$$

$$\text{Total cost of ownership} = 225,600 - 5130 + 1000 + 5280 + 1500 + 1880 + 4512 + 720 + 48000 = \$283,362$$

The total cost analysis shows that Supplier A is more cost-effective, even though the unit price is higher than Supplier B. Supplier A has a better cash discount rate, and better delivery performance rating.

PTS: 10

BUSPROG: Communication LO: 2-5 Bloom's: Application Difficulty: Difficult