Business Analytics, **3e (Evans)**
Chapter 1: Introduction to Business Analytics

1) Descriptive analytics:
A) can predict risk and find relationships in data not readily apparent with traditional analyses.
B) helps companies classify their customers into segments to develop specific marketing campaigns.
C) helps detect hidden patterns in large quantities of data to group data into sets to predict behavior.
D) can use mathematical techniques with optimization to make decisions that take into account the uncertainty in the data.
Answer: B
Diff: 1
Blooms: Remember
Topic: Descriptive, Predictive, and Prescriptive Analytics
LO1: Illustrate examples of descriptive, predictive, and prescriptive analytics.

2) A manager at Gampco Inc. wishes to know the company's revenue and profit in its previous quarter. Which of the following business analytics will help the manager?
A) prescriptive analytics
B) normative analytics
C) descriptive analytics
D) predictive analytics
Answer: C
Diff: 1
Blooms: Apply
AACSB: Analytic Skills
Topic: Descriptive, Predictive, and Prescriptive Analytics
LO1: Explain the difference between descriptive, predictive, and prescriptive analytics.

3) Predictive analytics:
A) summarizes data into meaningful charts and reports that can be standardized or customized.
B) identifies the best alternatives to minimize or maximize an objective.
C) uses data to determine a course of action to be executed in a given situation.
D) detects patterns in historical data and extrapolates them forward in time.
Answer: D
Diff: 2
Blooms: Remember
Topic: Descriptive, Predictive, and Prescriptive Analytics
LO1: Illustrate examples of descriptive, predictive, and prescriptive analytics.

4) A trader who wants to predict short-term movements in stock prices is likely to use _____
analytics.
A) predictive
B) descriptive
C) normative
D) prescriptive
Answer: A
Diff: 1
Blooms: Apply
AACSB: Analytic Skills
Topic: Descriptive, Predictive, and Prescriptive Analytics
LO1: Explain the difference between descriptive, predictive, and prescriptive analytics.

5) Which of the following questions will prescriptive analytics help a company address?
A) How many and what types of complaints did they resolve?
B) What is the best way of shipping goods from their factories to minimize costs?
C) What do they expect to pay for fuel over the next several months?
D) What will happen if demand falls by 10% or if supplier prices go up 5%?
Answer: B
Diff: 2
Blooms: Understand
AACSB: Analytic Skills
Topic: Descriptive, Predictive, and Prescriptive Analytics
LO1: Illustrate examples of descriptive, predictive, and prescriptive analytics.

6) The demand for coffee beans over a period of three months has been represented in the form
of an L-shaped curve. Which form of model was used here?
A) mathematical model
B) visual model
C) kinesthetic (tactile) model
D) verbal model
Answer: B
Diff: 1
Blooms: Apply
AACSB: Analytic Skills
Topic: Models in Business Analytics
LO1: Explain the concept of a model and various ways a model can be characterized.

7) Decision variables:
A) cannot be directly controlled by the decision maker.
B) are assumed to be constant.
C) are always uncertain.
D) can be selected at the discretion of the decision maker.

Answer: D
Diff: 2
Blooms: Understand
Topic: Models in Business Analytics
LO1: Define and list the elements of a decision model.

8) Identify the uncontrollable variable from the following inputs of a decision model.
A) investment returns
B) machine capacities
C) staffing levels
D) intercity distances
Answer: A
Diff: 1
Blooms: Apply
Topic: Models in Business Analytics
LO1: Define and list the elements of a decision model.

9) Which of the following inputs of a decision model is an example of data?
A) estimated consumer demand
B) inflation rates
C) costs
D) investment allocations
Answer: C
Diff: 1
Blooms: Remember
Topic: Data for Business Analytics
LO1: Define and list the elements of a decision model.

10) Descriptive decision models:
A) aim to predict what will happen in the future.
B) describe relationships but do not tell a manager what to do.
C) help analyze the risks associated with various decisions.
D) do not facilitate evaluation of different decisions.
Answer: B
Diff: 2
Blooms: Understand
Topic: Models in Business Analytics
LO1: Explain the concept of a model and various ways a model can be characterized.

11) Prescriptive decision models help:
A) make predictions of how demand is influenced by price.
B) make trade-offs between greater rewards and risks of potential losses.
C) decision makers identify the best solution to decision problems.

D) describe relationships and influence of various elements in the model.
Answer: C
Diff: 1
Blooms: Remember
Topic: Models in Business Analytics
LO1: Define the terms optimization, objective function, and optimal solution.

12) The manager at Soul Walk Inc., a shoe manufacturing company, wants to set a new price (P) for a shoe model to maximize total profit. The demand (D) as a function of price is represented as:
$D = 1{,}500 - 2.5P$
The total cost (C) as a function of demand is represented as:
$C = 3{,}200 + 3.5D$
Which of the following is a model for total profit as a function of price?
A) $(1{,}508.75 \times \text{price}) - (2.5 \times \text{price}^2) - 8{,}450$
B) $(3.5 \times \text{price}^2) + 3{,}200 - (1925.50 \times \text{price})$
C) $(1{,}250 \times \text{price}) + (5 \times \text{price}^2) - 8{,}320$
D) $[4521 + (4.5 \times \text{price})] \times \text{price} - 9684.25$
Answer: A
Diff: 3
Blooms: Apply
Topic: Models in Business Analytics
LO1: Define the terms optimization, objective function, and optimal solution.

13) Which decision model incorporates the process of optimization?
A) predictive
B) prescriptive
C) descriptive
D) normative
Answer: B
Diff: 1
Blooms: Remember
Topic: Models in Business Analytics
LO1: Define the terms optimization, objective function, and optimal solution.

14) Which of the following is the first phase in problem solving?
A) defining the problem
B) analyzing the problem
C) recognizing the problem
D) structuring the problem
Answer: C
Diff: 1
Blooms: Remember