*Business Analytics* **(Evans)**
**Chapter 2   Analytics on Spreadsheets**

1) Which of the following symbols is used to represent exponents in Excel?
A) ^
B) *
C) #
D) !
Answer:  A
Diff: 1
Blooms:  Remember
Topic:  Basic Excel Skills
LO1:  Find buttons and menus in the Excel 2010 ribbon.
LO2:  Use a modern software tool to perform statistical calculations.

2) Which of the following ways would $10^2 \times 5^3/100 - 73$ be represented in an Excel spreadsheet?
A) 10(2) * 5(3) / 100 ^ 73
B) 10(2) ^ 5(3) / 100 - 73
C) 10^2 * 5^3 / 100 - 73
D) 10*2 ^ 5*3 / 100 - 73
Answer:  C
Diff: 1
Blooms:  Understand
Topic:  Basic Excel Skills
LO1:  Write correct formulas in an Excel worksheet.
LO2:  Use a modern software tool to perform statistical calculations.

3) Which of the following is a difference between relative addressing and absolute addressing when using cell formulas in Excel?
A) A relative address uses a dollar sign before either the row or column label; an absolute address uses the ampersand symbol before either the row or column label.
B) A relative address uses a dollar sign before either the row or column label; an absolute address uses just the row and column label in the cell reference.
C) A relative address uses just the row and column label in the cell reference; an absolute address uses a dollar sign before either the row or column label.
D) A relative address uses only the column label in the cell reference; an absolute address uses the row.
Answer:  C
Diff: 2
Blooms:  Remember
Topic:  Basic Excel Skills
LO1:  Apply relative and absolute addressing in Excel formulas.
LO2:  Use a modern software tool to perform statistical calculations.

Use the data given below to answer the following question(s)

Below is the spreadsheet for demand prediction of a company that sells chocolates.

| | A | B | C |
|---|---|---|---|
| 1 | **Demand Prediction Models** | | |
| 2 | | | |
| 3 | **Linear Model** | | |
| 4 | a | 10,000 | |
| 5 | b | 10 | |
| 6 | | | |
| 7 | **Price** | **Demand** | |
| 8 | $50 | 9,500 | |
| 9 | $55 | 9,450 | |
| 10 | $45 | 9,550 | |
| 11 | | | |

4) Given that D = a-bP, where D, is demand, "a" and "b," are linear constants, and P, is price, from the below spreadsheet, how will the formula in B9 be represented in Excel using relative addressing?
A) B4-B5*A9
B) C5-C6*A10
C) B4-B5*A10
D) B5-B6*A10
Answer:  A
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Copy formulas from one cell to another or to a range of cells.
LO2:  Use a modern software tool to perform statistical calculations.

5) If a dollar sign is used after the column in B5 (B$5), how will the formula at B8 be represented in C9 using absolute addressing?
A) C3-B5*C9
B) C5-C6*B9
C) C5-C6*C9
D) C5-C5*B9
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Apply relative and absolute addressing in Excel formulas.
LO2:  Use a modern software tool to perform statistical calculations.

6) If a dollar sign is used before the column label B4 ($B4), how will the formula at B10 be represented in C11 using absolute addressing?
A) B5-C6*B11
B) C5-C6*A10
C) B4-C5*B11
D) A5-C6*B11
Answer:  A
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Apply relative and absolute addressing in Excel formulas.
LO2:  Use a modern software tool to perform statistical calculations.

7) If, in the spreadsheet, cells B9 and B10 were empty, which of the following formulas should be entered in B8 so that the formula can be dragged to B9 and B10 to obtain their correct values?
A) B4-B5*A8
B) B4-B5*$A8
C) $B4-B5*$A8
D) $B$4-$B$5*$A8
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Copy formulas from one cell to another or to a range of cells.
LO2:  Use a modern software tool to perform statistical calculations.

8) Using a $ sign before a column label _____.
A) keeps the reference to both the row and column fixed
B) keeps the reference to the row fixed, but allows the column reference to change
C) keeps the reference to column fixed, but allows the row reference to change
D) allows both the row and column references to change
Answer:  C
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Copy formulas from one cell to another or to a range of cells.
LO2:  Use a modern software tool to perform statistical calculations.

9) To copy a formula from a single cell or range of cells down a column or across a row, first _____, click and hold the mouse on the small square in the lower right-hand corner of the cell, and drag the formula to the "target" cells which you wish to copy.
A) press Ctrl-C
B) select the cell or range
C) press Ctrl-Enter
D) select the whole spreadsheet
Answer:  B
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Copy formulas from one cell to another or to a range of cells.
LO2:  Use a modern software tool to perform statistical calculations.

10) Trace the process of copying and pasting a cell, which has a formula in it, such that the formula is not retained in the pasted cell.
A) Home - Paste - Paste Special - Paste Values
B) Home - Paste - Paste Special - Paste Validation
C) Home - Paste - Paste Special - Paste Formats
D) Home - Paste - Paste Special - Paste Formulas
Answer:  A
Diff: 1
Blooms:  Remember
Topic:  Basic Excel Skills
LO1:  Copy formulas from one cell to another or to a range of cells.
LO2:  Use a modern software tool to perform statistical calculations.

11) Which of the following is a differentiation between calculating using the functions COUNT and COUNTIF?
A) COUNT does not require a range of cells; COUNTIF requires a range of cells.
B) COUNT can be obtained without a special criteria, COUNTIF requires range and special criteria to be calculated.
C) COUNT requires a range of cells; COUNTIF does not require a range of cells, only special criteria.
D) COUNT calculates the sum of values for a range of cells; COUNTIF finds the largest value in a range of cells.
Answer:  B
Diff: 2
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

12) The Excel function of _____ is used to find the largest value in a range of cells.
A) SUM(range)
B) COUNT(range)
C) MAX(range)
D) COUNTIF(range, criteria)
Answer:  C
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

Use the data given below to answer the following question(s).

Below is a spreadsheet of purchase orders for a computer hardware retailer.

|  | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | **Purchase Orders** | | | | | | | |
| 2 | | | | | | | | |
| 3 | **Supplier** | **Item Description** | **Item Cost** | **Quantity** | **Cost per Order** | **A/P Terms (Months)** | **Order No.** | **Order Size** |
| 4 | Rex Technologies | Graphics Card | $ 89 | 35 | $3115 | 20 | AL123 | Large |
| 5 | Rex Technologies | Monitor | $150 | 15 | $2250 | 25 | AL234 | Small |
| 6 | Rex Technologies | Keyboard | $ 15 | 40 | $600 | 15 | AL345 | Large |
| 7 | Rex Technologies | Speakers | $ 15 | 20 | $300 | 25 | AL456 | Small |
| 8 | Max's Wavetech | HD Cables | $ 5 | 10 | $50 | 25 | KO876 | Small |
| 9 | Max's Wavetech | Processor | $278 | 27 | $6950 | 30 | KO765 | Large |
| 10 | Max's Wavetech | Hard disk | $120 | 18 | $2160 | 20 | KO654 | Small |
| 11 | | | | | | | | |
| 12 | | | | | | | | |

13) To find the largest quantity of items ordered from Rex Technologies, what Excel formula should be used in A12?
A) =COUNTIF(D4:D10)
B) =SUM(D4:D7)
C) =MAX(D4:D7)
D) =COUNT(D4:D7)
Answer:  C
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

14) To find the total order cost, what Excel formula should be used in A12?
A) =COUNT(C4:C10)
B) =COUNT(C4:C7)
C) =MAX(C4:C10)
D) =SUM(E4:E10)
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

15) For which of the following columns can the COUNT function be performed?
A) column G
B) column E
C) column B
D) column A
Answer:  B
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

16) To find the average of the total cost of orders from Rex Technologies, what Excel formula should be used in A12?
A) =AVERAGE(C4:C10)
B) =AVERAGE(C4:C7)
C) =AVERAGE(E4:E7)
D) =AVERAGE(E4:E10)
Answer:  C
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

17) To find the number of orders with A/P terms less than 25 months, what Excel formula should be used in A12?
A) =COUNTIF(F4:F10,"<25")
B) =COUNT(F4:F10,25)
C) =AVERAGE(F4:F10,"<25")
D) =COUNTIF(F4:F10,F5)
Answer:  A
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

18) If purchase quantities of 25 units or higher are found to be large orders, and orders less than 25 are considered to be small, what IF function should be entered in H4 to be copied to H5:H10 to calculate each order's size?
A) =IF(D4=AND=OR=25,"Large","Small")
B) =IF(D4<>25,"Small")=AND(D4=25,"Large")
C) =IF(D4=25,"Large")=OR("Small")
D) =IF(D4>=25,"Large","Small")
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

19) _____ measures the worth of a stream of cash flows, taking into account the time value of money.
A) Accounting rate of return
B) Net present value
C) Internal rate of return
D) Adjusted present value
Answer:  B
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

20) The _____ reflects the opportunity costs of spending funds now versus achieving a return through another investment, as well as the risks associated with not receiving returns until a later time.
A) modified internal rate of return
B) payback period
C) accounting rate of return
D) discount rate
Answer:  D
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

21) Identify the equation for calculating the net present value for a stated period of time, where $F_t$ = cash flow in period $t$, and $i$ is the discount rate.

A) $NPV = \sqrt{\dfrac{\sum\limits_{t=0}^{n} \left| \dfrac{F_t + i}{2} \right|}{n}}$

B) $NPV = \sum\limits_{t-0}^{n} F_t (1 + i)^t$

C) $NPV = \sum\limits_{t-0}^{n} \dfrac{F_t}{(1 + i)^t}$

D) $NPV = \sum\limits_{t-0}^{n} \dfrac{F^t}{i} \sqrt{(1 + i)^t}$

Answer:  C
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

22) A positive NPV means that the investment will provide added value because the projected return exceeds the _____.
A) modified internal rate of return
B) discount rate
C) accounting rate of return
D) adjusted present value
Answer:  B
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

23) The easiest way to locate a particular function is to select a cell and click on the Insert function button represented by _____ on the Excel ribbon.
A) $f_x$
B) $\Sigma$
C) $
D) %
Answer: A
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Find buttons and menus in the Excel 2010 ribbon.
LO2: Use a modern software tool to perform statistical calculations.

24) _____ is a logical function that returns one value if the condition is true and another if the condition is false.
A) OR*(condition 1, condition 2…)*
B) AND*(condition 1, condition 2…)*
C) TO*(value if true, value if false)*
D) IF*(condition, value if true, value if false)*
Answer: D
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

25) Which of the following functions is a logical function that returns TRUE if any condition is true and FALSE if not?
A) TO*(value if true, value if false)*
B) AND*(condition 1, condition 2…)*
C) OR*(condition 1, condition 2…)*
D) IF*(condition, value if true, value if false)*
Answer: C
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

26) Give the logical function for the following: If cell B7 equals 12, check contents of cell B10. If cell B10 is 10, then the value of the function in the string is YES; if not, it is a blank space. If cell B7 does not equal 12, then the value of the function is 7 no matter what cell H45 is.
A) =IF(B7=12,(AND(B10=10, "")(YES)),7)
B) =IF(B10=10,(OR(B7=12,"")"YES")7)
C) =IF(B7=12,(IF(B10=10,"YES", "")),7)
D) =IF(B7=12,(AND(B10=10,"YES","")(B10="NO"),7)
Answer:  C
Diff: 3
Blooms:  Understand
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

27) If cell G7 contains the function _____, it states that if the value in cell C3 is 9, the number 7 will be assigned to cell G7; if the value in cell C3 is not 9, the number 4 will be assigned to cell G7.
A) =IF(G7=9)(G7=7)=OR(G7=4)
B) =IF(G7=7)=THEN(C3=9)=OR(C3=4)
C) =IF(C3=9)(C3=7)=OR(C3=4)
D) =IF(C3=9,7,4)
Answer:  D
Diff: 2
Blooms:  Understand
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

28) The function _____ returns a value or reference of the cell at the intersection of a particular row and column in a given range.
A) VLOOKUP*(lookup_value, table_array, col_index_num)*
B) INDEX*(array, row_num, col_num)*
C) MATCH*(lookup_value, lookup_array, match_type)*
D) HLOOKUP*(lookup_value, table_array, row_index_num)*
Answer:  B
Diff: 1
Blooms:  Remember
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

29) Which of the following Lookup functions returns the relative position of an item in an array that equals a specified value in a specified order?
A) HLOOKUP(lookup_value, table_array, row_index_num)
B) MATCH(lookup_value, lookup_array, match_type)
C) INDEX(array, row_num, col_num)
D) VLOOKUP(lookup_value, table_array, col_index_num)
Answer: B
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

30) In a MATCH function, if the match_type = 0, then _____.
A) the function finds the largest value that is less than or equal to lookup_value
B) the function finds the smallest value that is greater than or equal to lookup_value
C) MATCH finds the first value that is exactly equal to lookup_value
D) the values in the lookup_array must be in a particular order
Answer: C
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

31) For which of the following MATCH functions must the values in the lookup_array be ordered in a descending order?
A) When match_type = -1
B) When match_type >1
C) When match_type = 0
D) When match_type = 1
Answer: A
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

Use the following scenario to answer the following question(s)

The Blue Sunset Band is planning to record a new album. A major decision to be made is if the band can record the album on their own, or if they should hire a studio to record it with. The fixed cost for recording at the studio is $100,000 plus the manufacturing cost per CD, which is at $250. If they record the album in-house, the cost per CD is $350. They plan to produce 3000 copies of the album regardless of the place of recording. The band plans to record with the cheaper option. Below is the spreadsheet of the Recording Decision.

|    | A | B |
|----|---|---|
| 1 | **The Blue Sunset Band Album Recording Decision** | |
| 2 | | |
| 3 | **Data** | |
| 4 | | |
| 5 | Recording at Studio | |
| 6 | Fixed Cost | $ 100,000 |
| 7 | Unit CD Cost | $ 250 |
| 8 | | |
| 9 | Recording In-house | |
| 10 | Unit CD Cost | $ 350 |
| 11 | | |
| 12 | Production Volume | 3000 |
| 13 | | |
| 14 | **Model** | |
| 15 | | |
| 16 | Total studio manufacturing cost | $ 850,000 |
| 17 | Total in-house manufacturing cost | $1,050,000 |
| 18 | | |
| 19 | Cost Difference | -$ 200,000 |
| 20 | Recording Decision | Studio |

32) Which of the following formulas is used to calculate the total studio recording cost?
A) =SUM(B6:B12)-B10
B) (B6+B7-B16)B12
C) B6+B7*B12
D) B6+B7*B12-B16
Answer:  C
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

33) Which of the following formulas are used to calculate the In-house recording cost?
A) B10*B12
B) B10*B12-B17
C) B6+B10*B12
D) =SUM(B6:B12)-B7
Answer:  A
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

34) Which of the following formula is used to make the recording decision in B20?
A) =IF(B19>0,"In-house","Studio")
B) =IF(B19<=0,"Studio","In-house")
C) =SUM(B19<=0,"Studio")
D) =IF(B19>0,"Studio","In-house")
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO2:  Use a modern software tool to perform statistical calculations.

Using the spreadsheet below to answer the following question(s).

The spreadsheet below shows the net income model for a company that sells shoes.

|  | A | B |
|---|---|---|
| 1 | **Net Income Model** | |
| 2 | | |
| 3 | **Data** | |
| 4 | | |
| 5 | Sales | $10,000,000 |
| 6 | Cost of Goods Sold | $ 6,400,000 |
| 7 | Administrative Expenses | $ 500,000 |
| 8 | Selling Expenses | $ 900,000 |
| 9 | Depreciation Expenses | $ 750,000 |
| 10 | Interest Expenses | $ 70,000 |
| 11 | Taxes | $ 620,000 |
| 12 | | |
| 13 | **Model** | |
| 14 | | |
| 15 | Gross Profit | $ 3,600,000 |
| 16 | Operating Expenses | $ 2,150,000 |
| 17 | Net Operating Income | $ 1,450,000 |
| 18 | Earnings Before Taxes | $ 1,380,000 |
| 19 | | |
| 20 | Net Income | |

35) Which of the following formulas would be used to calculate the net income value using only the data value?
A) =SUM(B5:B10)-B11
B) =SUM(B5:B11)
C) =B5-SUM(B6:B11)
D) =B5-SUM(B6:B10)+B11
Answer:  C
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

36) Which of the following would be used to calculate the gross profit?
A) =SUM(B7:B11)-B6
B) =B5-B6
C) =B5-(B6-B11)
D) =B5-B6+(B11-B10)
Answer:  B
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

37) Which of the following formulas would be used to calculate the operating expenses?
A) =SUM(B7:B10)
B) =SUM(B7:B9)
C) =SUM(B7:B9)-B6
D) =SUM(B7:10)-B11
Answer:  B
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

38) Which of the following formulas would be used to calculate the net operating income?
A) =B15-B5
B) =B15-B16
C) =SUM(B6:B10)-B11
D) =B15-B16+B6
Answer:  B
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

39) Which of the following formulas would be used to calculate earnings before taxes?
A) =B15-B16+B6
B) =B15-B5
C) =B15-B16
D) =B17-B10
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

40) Which of the following formulas would be used to calculate the net income value using only the information in the Model, and not in the Data section?
A) =B5-B17
B) =B6-B15
C) =B15-B16-B17+B18
D) =B18-B11
Answer:  D
Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Apply principles of spreadsheet engineering to designing and implementing spreadsheet models.
LO2:  Use a modern software tool to perform statistical calculations.

41) Using the spreadsheet below, provide the steps in using Excel formulas in finding the cost of the first order for Item number 1345, and the total cost of all Item numbers 1345, using the Match and Index functions in Excel. Column B is sorted by item number in ascending order.

|    | A | B | C | D | E |
|----|---|---|---|---|---|
| 1 | Purchase Orders | | | | |
| 2 | | | | | |
| 3 | Supplier | Item No. | Item Cost | Quantity | Cost per Order |
| 4 | Rex Technologies | 1123 | $ 89 | 35 | $3115 |
| 5 | Rex Technologies | 1234 | $150 | 15 | $2250 |
| 6 | Rex Technologies | 1345 | $ 15 | 40 | $ 600 |
| 7 | Rex Technologies | 1345 | $ 15 | 20 | $ 300 |
| 8 | Max's Wavetech | 1345 | $ 5 | 10 | $ 50 |
| 9 | Max's Wavetech | 1765 | $278 | 27 | $6950 |
| 10 | Max's Wavetech | 1654 | $120 | 18 | $2160 |
| 11 | Rex Technologies | 1765 | $ 54 | 56 | $3024 |
| 12 | Rex Technologies | 1100 | $ 71 | 33 | $2343 |
| 13 | Rex Technologies | 1100 | $ 10 | 14 | $ 140 |
| 14 | Rex Technologies | 1683 | $ 7 | 25 | $ 175 |
| 15 | Max's Wavetech | 1683 | $100 | 31 | $3100 |

Answer: To find the order cost associated with the first order for 1345, which is in column E, we have to first use the Match function, =MATCH(1345,$B$4:$B$15,0).
Accordingly, the result will be, =MATCH(1345,$B$4:$B$15,0) = 3.
In order to find the cost associated with this result, we add this function in an Index function. Therefore, the formula for finding cost is,
=INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,0),5). …. (1)
The result for this formula is,
=INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,5) = $600.
To find the total cost associated with all items under Item number: 1345, we find the last cost associated with 1345 in column E, which is given by the formula
=INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,1),5). …. (2)
The result for this formula is,
=INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,1),5) = $50.
We then substitute both (1) and (2) into Excel's SUM function.
Therefore we get,
=SUM(INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,0),5):INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,1),5))
Therefore the total cost for all items under 1345,
=SUM(INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,0),5):INDEX($A$4:$E$15,MATCH(1345,$B$4:$B$15,1),5)) = $950.

Diff: 2
Blooms:  Apply
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

42) Using a $ sign before both the row and column labels keeps the reference to that cell fixed no matter where the formula is copied.
Answer:  TRUE
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Basic Excel Skills
LO1:  Write correct formulas in an Excel worksheet.
LO2:  Use a modern software tool to perform statistical calculations.

43) AND*(condition 1, condition 2...)* is a logical function that returns TRUE if all conditions are true and FALSE if not.
Answer:  TRUE
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

44) To use the *VLOOKUP(lookup_value, table_array, col_index_num)*, the table must be sorted in the descending order.
Answer:  FALSE
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

45) In a MATCH function, the default value for *match_type* = 0.
Answer:  FALSE
Diff: 1
Blooms:  Remember
AACSB:  Analytic Skills
Topic:  Excel Functions
LO1:  Use basic and advanced Excel functions.
LO2:  Use a modern software tool to perform statistical calculations.

46) In a MATCH function, if *match_type = 1,* then the function finds the smallest value that is greater than or equal to *lookup_value.*
Answer: FALSE
Diff: 1
Blooms: Remember
AACSB: Analytic Skills
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

47) The process of developing good, useful, and correct spreadsheet models is known as spreadsheet engineering.
Answer: TRUE
Diff: 1
Blooms: Remember
AACSB: Analytic Skills
Topic: Spreadsheet Modeling and Spreadsheet Engineering
LO1: Use Excel features and spreadsheet engineering to ensure the quality of your spreadsheets.
LO2: Use a modern software tool to perform statistical calculations.

48) Describe the method of calculating the net present value (NPV) in Excel.
Answer: The Excel function NPV *(rate, value1, value2,...)* calculates the net present value of an investment by using a discount rate and a series of future payments (negative values) and income (positive values). Rate is the rate of discount over the length of one period (*i*), and *value1, value2,...* are 1 to 29 arguments representing the payments and income. The values must be equally spaced in time and are assumed to occur at the end of each period. The NPV investment begins one period before the date of the *value1* cash flow and ends with the last cash flow in the list. The NPV calculation is based on future cash flows. If the first cash flow (such as an initial investment or fixed cost) occurs at the beginning of the first period, then it must be added to the NPV result and not included in the function arguments.
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

49) What is the Insert function in Excel?
Answer: The easiest way to locate a particular function is to select a cell and click on the Insert function button $f_X$, which can be found under the ribbon next to the formula bar and also in the *Function Library* group in the *Formulas* tab. You may either type in a description in the search field, such as "net present value," or select a category, such as "Financial," from the drop-down box. This feature is particularly useful if you know what function to use but are not sure of what arguments to enter because it will guide you in entering the appropriate data for the function arguments.
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

50) Explain the different Lookup functions in Excel.
Answer: Excel provides some useful functions for finding specific data in a spreadsheet. These functions are useful in many applications:
VLOOKUP*(lookup_value, table_array, col_index_num)* looks up a value in the leftmost column of a table and returns a value in the same row from a column you specify. The table must be sorted in an ascending order.
HLOOKUP*(lookup_value, table_array, row_index_num)* looks up a value in the top row of a table and returns a value in the same column from a row you specify.
INDEX*(array, row_num, col_num)* Returns a value or reference of the cell at the intersection of a particular row and column in a given range.
MATCH*(lookup_value, lookup_array, match_type)* Returns the relative position of an item in an array that matches a specified value in a specified order.
Diff: 1
Blooms: Remember
Topic: Excel Functions
LO1: Use basic and advanced Excel functions.
LO2: Use a modern software tool to perform statistical calculations.

51) Give an account of how the design and format of spreadsheets can be improved.
Answer:  A logical design of the spreadsheet should be sketched after inputs, outputs, and key model relationships are well understood. For example, the spreadsheet should resemble a financial statement to make it easier for managers to read. It is good practice to separate the model inputs from the model itself and to reference the input cells in the model formulas; that way, any changes in the inputs will be automatically reflected in the model as shown in the text examples. Another useful approach is to break complex formulas into smaller pieces. This reduces typographical errors, makes it easier to check your results, and also makes the spreadsheet easier to read for the user. Finally, it is also important to set up the spreadsheet in a form that the end user, like a financial manager, can easily interpret and use.
Diff: 1
Blooms:  Understand
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Use Excel features and spreadsheet engineering to ensure the quality of your spreadsheets.
LO2:  Use a modern software tool to perform statistical calculations.

52) Explain how the Data Validation feature in Excel helps in increasing spreadsheet quality.
Answer:  The *Data Validation* feature allows you to define restrictions on what data can or should be entered in a cell. For example, it does not make sense to input a quantity produced that is not a whole number. You can prevent users from entering data that are not valid or allow users to enter invalid data but warn them when they try to type it in the cell. You can also provide messages to define what input you expect for the cell, and instructions to help users correct any errors. *Data Validation* can be found in the *Data Tools* group in the *Data* tab in the Excel ribbon.
Diff: 1
Blooms:  Understand
Topic:  Spreadsheet Modeling and Spreadsheet Engineering
LO1:  Use Excel features and spreadsheet engineering to ensure the quality of your spreadsheets.
LO2:  Use a modern software tool to perform statistical calculations.