Overview
Spreadsheet skills are necessary to convert data to information in business. This event recognizes FBLA members who demonstrate that they have acquired skills for spreadsheet development in business.

This event consists of two parts: an objective test taken at the NLC and a skills production test taken prior to the NLC.

Competencies and Task Lists
httD://www.fbla-pbl.orq/docs/ct/FBLA/SPREADSHEETAPPLICATIONS.pdf

Web Site Resources
>	A Brief History of Spreadsheets
>	http://dss.cba.uni.edu/dss/sshistorv.html
>	Business Education Links
>	http://lessonplans.btskinner.com/
>	Free Excel file downloads
>	http://www.i-walk.com/ss/excel/files/index.htm
>	Introduction to Spreadsheets
>	http://www.cs.indiana.edu/classes/a106-fulc/spreadsheet.intro.html
>	Microsoft Excel Spreadsheet
>	http://www.uchaswv.edu/courses/cis101 -02/ss1 .html
>	Spreadsheet Basics
>	http://marthforum.org/sum95/math and/spreadsheets/basics.html
>	Using Spreadsheets in Math
>	http://www.math.bvu.edu/~lfrancis/readings302/Spreadsheets.html

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SPREADSHEET APPLICATIONS SAMPLE QUESTIONS

1.	The expression_____ returns the maximum value in the range A1 :A100 and then divides the value by 100.
	a.	=MAX(A1:A100/100)
	b.	=MAXIMUM(A1:A100)/100
	c.	=MAX(A1:A100)/100
	d.	=MAX(100)/(A1:A100)

2.	The_____ operator checks if the value in a given cell is less than the value in another cell.
	a.	<>
	b.	<
	c.	>
	d.	<=

3.	A chart placed in the same worksheet with its corresponding data is known as a(n)_____ chart.
	a.	embedded
	b.	pie
	c.	attached
	d.	custom

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4. A data _____ is a group of related data points.
   a. aggregate
   b. cluster
   c. roster
   d. series

5. The Stop Recording toolbar contains two buttons: the Stop Recording button and the _____ Reference button.
   a. Relational
   b. Absolute
   c. Macro
   d. Relative

6. To execute a macro you create, you can select the _____ command in the Macro dialog box.
   a. Start
   b. Run
   c. Execute
   d. Launch

7. In VBA, macros are called _____ procedures.
   a. commented
   b. body
   c. modular
   d. sub

8. Why would you use a spreadsheet instead of using a table in a word processing document?
   a. You cannot perform any calculations in a table.
   b. A spreadsheet offers many more options of manipulating data, including advanced calculations.
   c. A spreadsheet is always easier to use.
   d. There are more fonts and font styles available in a spreadsheet.

9. Which one of the following is a **true** statement about where a list is filtered?
   a. Copied data cannot be sorted without an impact on the original records.
   b. Field names in another location can be arranged in any order.
   c. When copied to a new location, copied data are linked back to the original database.
   d. Filtering a list in place is useful when you want to see all of the data in records that meet filter criteria.

10. Which one of the following criteria will display records of all females old enough to drive (assuming the driving age is 16)?
    a. Gender equals female, age greater than or equal to 16.
    b. Gender equals female, age greater than 16.
    c. Gender equals female, age less than 17.
    d. Gender equals female, age equal to 16.

11. The rectangular area where a column and a row intersect is called a(n):
    a. active cell
    b. cell range
    c. cell
    d. cell pointer

12. Categories in charts are generally plotted along the horizontal axis known as the:
    a. X-axis
    b. Y-axis
    c. secondary axis
    d. data point axis

13. Data values are plotted along the vertical axis, known as the:
    a. data axis
    b. secondary axis
    c. Y-axis
    d. X-axis

14. To view the code of a macro, you need to open the Visual Basic:
    a. Editor
    b. Manager
    c. Code Window
    d. Reader

15. Which function can move data easily and quickly to report answers to different questions?
    a. chart
    b. lookup table
    c. diagram
    d. pivot table

16. Which one of the following **cannot** be done after a pivot table has been created?
    a. rename a field
    b. create a chart
    c. use a formula referencing a field that has been removed
    d. run a macro

17. Formatting in a pivot table will be retained when doing which one of the following?
    a. changing source data
    b. renaming items
    c. displaying or hiding items
    d. displaying or hiding totals

18. If you have created a pivot table with a pivot chart based on it, which one of the following would affect only the table and **not** the chart?
    a. set up titles to print on each page of the table
    b. hide fields in the table
    c. sort the table
    d. refresh the table

19. Which one of the following is the easiest method to print only rows that meet specific criteria?
    a. hide columns
    b. data validation
    c. conditional formatting
    d. filter

20. What filter criteria would you use in a list of fines owed if you wanted only fines that were $10 or more but under $50?
    a. fee is greater than or equal to 10 and less than 50
    b. fee is greater than or equal to 10 and less than or equal to 50
    c. fee is greater than 10 and less than 50
    d. fee is between 10 and 50

21. Which AutoFilter option would you use to filter data for Room Numbers between 100-199?
    a. custom criteria
    b. nonblanks
    c. sort
    d. top 10

22. What does the error message #DIV/0! mean?
    a. The formula is using the wrong type of argument.
    b. The formula is attempting to divide a number by zero.
    c. The formula contains a cell reference that is **not** valid.
    d. There is no room in the cell for the number of digits needing to be displayed.

23. Which one of the following functions does **not** use an argument?
    a. TODAY
    b. IF
    c. SUM
    d. COUNT

24. Which one of the following formulas would **not** result in the average of Cells C7 through C10?
    a. (C7+C8+C9+C10)/4
    b. AVE($C$7:$C$10)
    c. C7+C8+C9+C10/4
    d. AVE(C7:C10)

25. Which one of the following is a correct order of operations in a formula?
    a. multiplication, addition, percent
    b. percent, multiplication, addition
    c. multiplication, percent, addition
    d. percent, addition, multiplication

26. Which cell reference would you use in Sheet 1 to refer to Cell A2 on Sheet 2?
    a. A2!Sheet2
    b. Sheet2!A2
    c. A2(Sheet2)
    d. Sheet2(A2)

27. In a formula, what does the colon stand for?
    a. divide
    b. or
    c. through
    d. and

28. Which one of the following is the most effective chart to compare contributions of individuals to a total?
    a. XY (Scatter)
    b. Clustered column
    c. Stacked column
    d. Line

29. Which of the following is a valid macro name?
    a. 2My_Macro
    b. My macro2
    c. My_macro
    d. My macro

30. Which one of the following business applications is **not** well-suited to a spreadsheet?
    a. the body of a mail merge letter
    b. a list of customer information for mail merge letters
    c. customer bills
    d. record of accounts receivable

SPREADSHEET APPLICATIONS PRODUCTION TEST

General Directions
- Read carefully and follow all steps in the following production jobs.
- Before printing, resize columns so that all data shows on the printouts.
- When printing, make any necessary adjustments to column size, orientation, margins, and chart/object size to make the documents fit on one page. Print with a header or footer that contains the job number, name, school, and state.

Input the following data:

Sales Force Monthly Earnings Report
January, 2008

Salesperson	Sales	Bonus Commission	Bonus	Monthly Earnings	Percentage Percentage
Herman, Maria	35000				
Jackson, Tom	28000				
Martin, Anne	25000				
Peters, Jeffrey	32000				
Ralston, Fred	36000				
Turtle, Susan	41000				
Smith, Jonathan	47,500				
Berber, Barbara	48,725				
Morgan, Dorothy	31,250				
Medley, Loran	30,250				
Total					

Current Month's Commission Rate	10%
Sales Target for the month	$30,000
Bonus Rate	3%

JOB 1A: Spreadsheet

1. Enter the data above into a spreadsheet. Save your workbook as Sales Report. Name the sheet Sales. The first line should be a title line, merged and centered above the columns, bold, and with a 16-point Arial font. The second title line should be merged and centered above the columns, bold, and with a 12-point Arial font. The column headings should be bold, centered, 14-point Arial font, and filled with a shading effect. The three lines below the total row should be separated from the rest of the spreadsheet by three blank rows and entered at the left side of the worksheet.

2. Use a formula to calculate the commission for each employee. Use cell locations in your formulas and absolute references where necessary.

3. Use the *if function* to figure the bonus for each employee. All employees get a 3 percent bonus paid on sales in excess of the sales target.

4. Use a formula to calculate the total monthly earnings for each employee. Total each of the columns in the total row. Indent the word Total in column A three spaces.

5. Use the appropriate formula to calculate the percent each salesperson's sales are to the total sales. Format as a percent to two decimal places.

6. Sort the sales sheet in ascending order by the salesperson's last name.

7. Format the other numbers in your worksheet as currency with no decimal places. Add a rule on the bottom of the row above the total row. Add a double rule on the bottom of the total row.

Print Job 1-A.1   Print spreadsheet landscape and center spreadsheet vertically and horizontally.
Print Job 1-A.2   Print spreadsheet landscape with formulas.

JOB 1B: Column Chart (15 points)

Create a clustered column chart using the sales for the month for each employee. Do not include the total. Put the chart on a new sheet; add a chart title of Sales Force Monthly Earnings, font size 20. Add an x-axis title of Salesperson, size 14 and a y-axis title of Sales, font size 14, rotated vertically. Remove the legend box. Rotate the x-axis labels -90 degrees.

Print Job 1-B   Print column chart

JOB 1C: 3-D Chart (15 points)

Create a 3-D pie chart of the monthly earnings for each salesperson. Do not include the total. Put the chart on a new sheet; put the percent by each piece of the pie on the outside; make the label font size 16. Explode the piece of the pie for Fred Ralston. Add a chart title of Monthly Earnings, font size 20.

Print Job 1-C   Print 3-D pie chart .

JOB 1D: Pivot Table (15 points)

Create a pivot table on a new sheet calculating the average of commission for each salesperson and the sum of monthly earnings per salesperson. Do not include the total column. Sort the pivot table in descending order of the monthly earnings column. Format the numbers in the pivot table as currency with no decimal places.

Print Job 1-D   Print pivot table.

JOB 1E: Sales Worksheet with Filter (10 points)

On the sales worksheet, create a filter to show only those employees whose percentage of the total sales was 9 percent or greater.

Print Job 1-E   Print sales worksheet with filter.

JOB 2A: Spreadsheet with Data Table

Garry's Golf and Sporting Goods offers private golf lessons. An income worksheet for private golf lessons is shown below. Create a spreadsheet and complete the different totals needed and the Net Income for the golf season. (*Total Variable Expense= variable expenses * total number of customers)*

Garry's Golf and Sporting Goods	
Private Golf Lessons **Income Worksheet**	
Golf Season	
Length of Season (days)	120
Average number of customers per day	50
Total Number of Customers	
Revenue	
Fee per customer	60
Total Revenue	
Variable Expenses	
Expense per customer	8
Green fees per customer	15
Total Variable Expenses	
Fixed Expenses	
Insurance	10,000
Maintenance	25,000
Salary and Benefits	95,000
Administrative and Advertising	35,000
Total Fixed Expenses	
Summary	
Total Revenue	
Total Expense	
Net Income	

Print Job 2-A

Print spreadsheet with data table.

JOB 2B: Data Table

The owner wants you to perform a **what-If analysis** for a range of customer values from 30 to 60 customers per day, in increments of two customers per day. To the right of the income worksheet in Part A, create a one-variable data table to show the results of this analysis. Use the partial table below to check your results.

Customers	Revenue	Expenses	Net Income
50	360,000	303,000	57,000
30	216,000	247,800	(31,800)
32	230,400	253,320	
34	244,800		
36			
38			
40			
42			
44			
46			
48			
50			
52			
54			
56			
58			
60			

Print Job 2-B   Print the data table.

Parliamentary Procedure Answer Key

1)	A	11)	D	21)	A
2)	A	12)	B	22)	A
3)	A	13)	A	23)	D
4)	B	14)	B	24)	D
5)	A	15)	D	25)	B
6)	D	16)	C	26)	C
7)	B	17)	B	27)	B
8)	A	18)	C	28)	D
9)	C	19)	C	29)	A
10)	C	20)	D	30)	D

Personal Finance Answer Key

1)	C	11)	D	21)	A
2)	D	12)	B	22)	C
3)	C	13)	D	23)	C
4)	D	14)	A	24)	C
5)	A	15)	C	25)	B
6)	A	16)	C	26)	B
7)	B	17)	C	27)	A
8)	D	18)	C	28)	A
9)	D	19)	C	29)	A
10)	A	20)	D	30)	C

Sports Management Answer Key

1)	C	11)	D	21)	B
2)	D	12)	B	22)	D
3)	C	13)	D	23)	D
4)	C	14)	C	24)	D
5)	B	15)	C	25)	D
6)	D	16)	C	26)	A
7)	B	17)	D	27)	A
8)	B	18)	A	28)	D
9)	D	19)	C	29)	A
10)	D	20)	B	30)	A

Spreadsheet Applications Answer Key

1)	C	11)	C	21)	A
2)	B	12)	A	22)	B
3)	A	13)	C	23)	A
4)	D	14)	A	24)	C
5)	D	15)	D	25)	B
6)	B	16)	C	26)	B
7)	D	17)	B	27)	C
8)	B	18)	A	28)	C
9)	D	19)	D	29)	C
10)	A	20)	A	30)	A

Technology Concepts Answer Key

1)	B	11)	A	21)	C
2)	C	12)	A	22)	D
3)	C	13)	D	23)	C
4)	C	14)	A	24)	A
5)	B	15)	D	25)	D
6)	C	16)	C	26)	C
7)	B	17)	C	27)	A
8)	A	18)	A	28)	A
9)	B	19)	A	29)	D
10)	A	20)	C	30)	C

JOB 1: Spreadsheet

Job 1-A

Sales Force Monthly Earnings Report
January, 2008

Salesperson	Sales	Commission	Bonus	Monthly Earnings	Percentage
Berber, Barbara	$48,725	$4,873	$562	$5,434	13.74%
Herman, Maria	$35,000	$3,500	$150	$3,650	9.87%
Jackson, Tom	$28,000	$2,800	$0	$2,800	7.89%
Martin, Anne	$25,000	$2,500	$0	$2,500	7.05%
Medley, Loran	$30,250	$3,025	$8	$3,033	8.53%
Morgan, Dorothy	$31,250	$3,125	$38	$3,163	8.81%
Peters, Jeffrey	$32,000	$3,200	$60	$3,260	9.02%
Ralston, Fred	$36,000	$3,600	$180	$3,780	10.15%
Smith, Jonathan	$47,500	$4,750	$525	$5,275	13.39%
Tuttle, Susan	$41,000	$4,100	$330	$4,430	11.56%
Total	$354,725	$35,473	$1,852	$37,324	100.00%

Current Month's Commission Rate	10%
Sales Target for the month	$30,000
Bonus Rate	3%

Job 1-A.1
Print landscape.

Sales Force Monthly Earnings Report
January, 2008

Salesperson	Sales	Commission	Bonus	Monthly Earnings	Percentag
Berber, Barbara	48725	=B5*$C$19	=IF(B5>=$C$20,(B5-$C$20)*$C$21,0)	=C5+D5	=B5/$B$15
Herman, Maria	35000	=B6*$C$19	=IF(B6>=$C$20,(B6-$C$20)*$C$21,0)	=C6+D6	=B6/$B$15
Jackson, Tom	28000	=B7*$C$19	=IF(B7>=$C$20,(B7-$C$20)*$C$21,0)	=C7+D7	=B7/$B$15
Martin, Anne	25000	=B8*$C$19	=IF(B8>=$C$20,(B8-$C$20)*$C$21,0)	=C8+D8	=B8/$B$15
Medley, Loran	30250	=B9*$C$19	=IF(B9>=$C$20,(B9-$C$20)*$C$21,0)	=C9+D9	=B9/$B$15
Morgan, Dorothy	31250	=B10*$C$19	=IF(B10>=$C$20,(B10-$C$20)*$C$21,0)	=C10+D10	=B10/$B$15
Peters, Jeffrey	32000	=B11*$C$19	=IF(B11>=$C$20,(B11-$C$20)*$C$21,0)	=C11+D11	=B11/$B$15
Ralston, Fred	36000	=B12*$C$19	=IF(B12>=$C$20,(B12-$C$20)*$C$21,0)	=C12+D12	=B12/$B$15
Smith, Jonathan	47500	=B13*$C$19	=IF(B13>=$C$20,(B13-$C$20)*$C$21,0)	=C13+D13	=B13/B
Tuttle, Susan	41000	=B14*$C$19	=IF(B14>=$C$20,(B14-$C$20)*$C$21,0)	=C14+D14	=B14/$B$15
Total	=SUM(B5:B14)	=SUM(C5:C14)	=SUM(D5:D14)	=SUM(E5:E14)	=B15/$B$15

Current Month's Commission Rate	*0.1*
Sales Target for the month	*30000*
Bonus Rate	*0.03*

Job 1-B: Column Chart

Sales Force Monthly Earnings
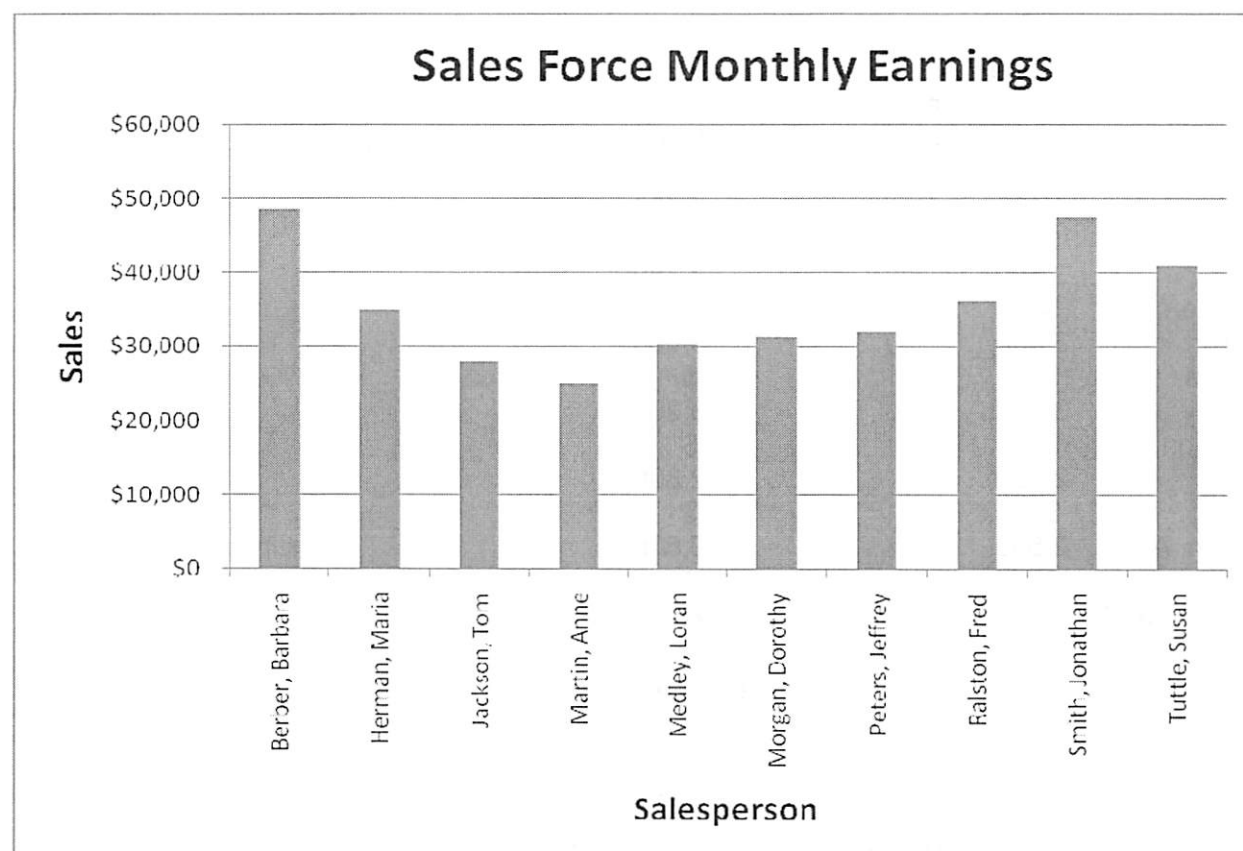
Job 1-C: 3-D Chart
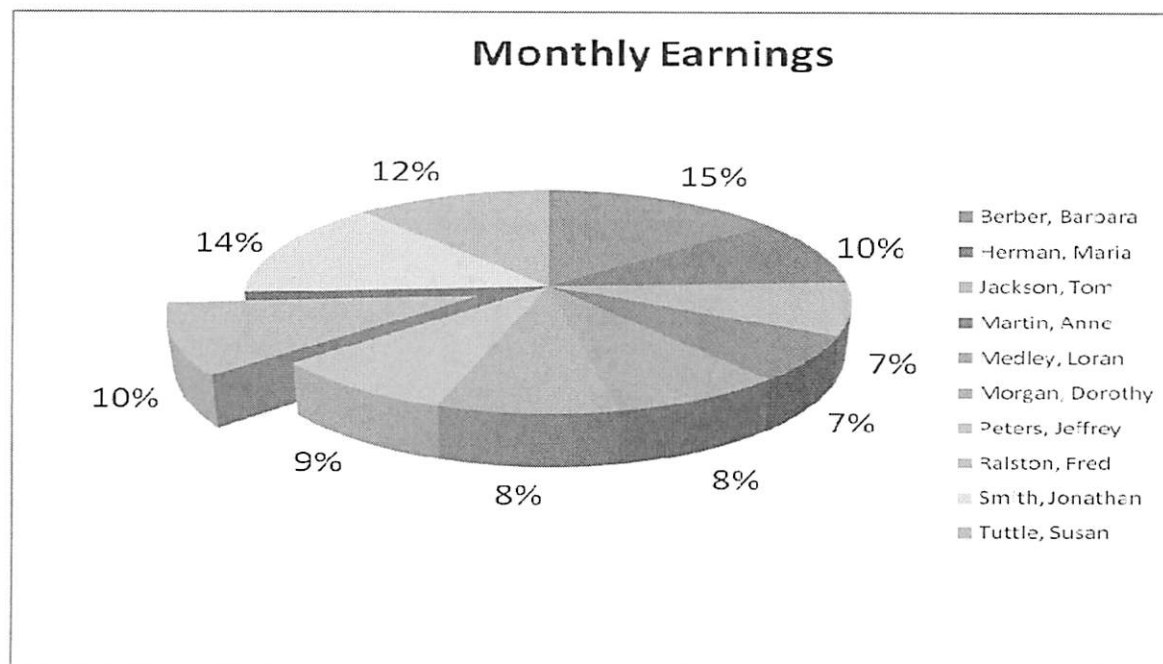
Monthly Earnings

Job 1-D: Pivot Table

Row Labels	Values Average of Commission	Sum of Monthly Earnings
Tuttle, Susan	$4,100	$4,430
Ralston, Fred	$3,600	$3,780
Herman, Maria	$3,500	$3,650
Peters, Jeffrey	$3,200	$3,260
Jackson, Tom	$2,800	$2,800
Martin, Anne	$2,500	$2,500
Grand Total	$3,283	$20,420

This key is missing some of the sales people. It should have all 10 sales people.

This will change the grand totals as follows:

Average of Commission: $3547.25

Sum of Monthly Earnings: $37,324.00

Job 1-E: Worksheet with Filter (need screen shots of filters)

	A	B	C	D	E	F
1		Sales Force Monthly Earnings Report					
2		January, 2008					
3							
4	**Salesperson**	**Sales**	**Commission**	**Bonus**	**Monthly Earnings**	**Percentage**
5	Berbei	$ 48,725	$ 4,873	$ 562	$ 5,434	20.28%
6	Herma	$ 35,000	$ 3,500	$ 150	$ 3,650	14.57%
11	Peters	$ 32,000	$ 3,200	$ 60	$ 3,260	13.32%
12	Ralsto	$ 36,000	$ 3,600	$ 180	$ 3,780	14.99%
13	Smith,	$ 47,500	$ 4,750	$ 525	$ 5,275	19.77%
14	Tuttle,	$ 41,000	$ 4,100	$ 330	$ 4,430	17.07%
15	Tota	$240,225	$ 24,023	$ 1,807	$ 25,829	100.00%
16						
17						
18						
19	Curre sion Rate			10%		
20	Sales Target for the month			$30,000		
21	Bonus Rate			3%		
22						

	A	B	C	D	E	F
1		Sales Force Monthly Earnings Report					
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3							
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12	Ralston, Fred		$ 3,600	$ 180	$ 3,780	14.99%
13	Smith, Jonathan		$ 4,750	$ 525	$ 5,275	19.77%
14	Tuttle, Susan		$ 4,100	$ 330	$ 4,430	17.07%
15	Total		$ 24,023	$ 1,807	$ 25,829	100.00%
16						
17						
18						
19	Current Month's C			10%		
20	Sales Target for the month			$30,000		
21	Bonus Rate			3%		
22						

	A	B	C	D	E	F
1		Sales Force Monthly Earnings Report					
2		January, 2008					
3							
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15	Total	$240,225		$ 1,807	$ 25,829	100.00%
16						
17						
18						
19	Current Month's Commission Rate					
20	Sales Target for the month			$30,000		
21	Bonus Rate			3%		
22						

Sales Force Monthly Earnings Report
January, 2008

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Peters, Jeffrey	$ 32,000	$		$ 3,260	13.32%
Ralston, Fred	$ 36,000	$		$ 3,780	14.99%
Smith, Jonathan	$ 47,500	$		$ 5,275	19.77%
Tuttle, Susan	$ 41,000	$		$ 4,430	17.07%
Total	$240,225	$		$ 25,829	100.00%

Current Month's Commission Rate	
Sales Target for the month	$30,000
Bonus Rate	3%

Sales Force Monthly Earnings Report
January, 2008

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Tuttle, Susan	$ 41,000	$ 4,100	$ 330	$	17.07%
Total	$240,225	$ 24,023	$ 1,807	$	100.00%

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Smith, Jonathan	$ 47,500	$ 4,750	$ 525	$ 5,275	
Tuttle, Susan	$ 41,000	$ 4,100	$ 330	$ 4,430	
Total	$240,225	$ 24,023	$ 1,807	$ 25,829	

Current Month's Commission Rate	10%
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Bonus Rate	3%

JOB 2: Spreadsheet with Data Table

Job 2-A
Income Worksheet

Golf Season

Length of Season (days)	120
Average number of customers per day	50
Total Number of Customers	6,000

Revenue

Fee per customer	60
Total Revenue	$360,000

Variable Expenses

Expense per customer	8
Green fees per customer	15
Total Variable Expenses	$138,000

Fixed Expenses

Insurance	10,000
Maintenance	25,000
Salary and Benefits	95,000
Administrative and Advertising	35,000
Total Fixed Expenses	$165,000

Summary

Total Revenue	360,000
Total Expense	303,000
Net Income	$57,000

Job 2-B: Data Table

Customers	Revenue	Expenses	Net Income
50	360,000	303,000	57,000
30	216,000	247,800	-31,800
32	230,400	253,320	-22,920
34	244,800	258,840	-14,040
36	259,200	264,360	-5,160
38	273,600	269,880	3,720
40	288,000	275,400	12,600
42	302,400	280,920	21,480
44	316,800	286,440	30,360
46	331,200	291,960	39,240
48	345,600	297,480	48,120
50	360,000	303,000	57,000
52	374,400	308,520	65,880
54	388,800	314,040	74,760
56	403,200	319,560	83,640
58	417,600	325,080	92,520
60	432,000	330,600	101,400