BUSINESS PROFESSIONALS *of* **AMERICA**
Giving Purpose to Potential

FUNDAMENTAL SPREADSHEET APPLICATIONS

(230)

REGIONAL 2021

Production:

Job 1: Create Spreadsheet with Formulas _____ **(160 points)**

Job 2: Format Spreadsheet _____ **(135 points)**

Job 3: 3-D Pie Chart _____ **(60 points)**

TOTAL POINTS _____ **(355 points)**

Test Time: 90 minutes

GENERAL GUIDELINES:

Failure to adhere to any of the following rules will result in disqualification:

1. Contestant must hand in this test booklet and all printouts if any. Failure to do so will result in disqualification.
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3. Electronic devices will be monitored according to ACT standards.

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2. If you finish before the end of the testing time, notify the proctor. Time may be a factor in determining the winner in the event of a tie.
3. When turning in your contest, the jobs should be arranged in printout order.

SCENARIO:

You work in the BPA Town Tax office. Your job is to manage four certain counties in the area. Your boss has asked for a spreadsheet on who has and has not paid their taxes. Create the spreadsheet below, and compute the information your boss has asked for.

Job 1 (Worksheets with answers and formulas)	Points Possible	Points Earned
Contestant # and Job # in right section of footer	10	
10 pt. Times New Roman font used for data	10	
Landscape orientation with narrow margins	10	
Worksheet printed landscape on one page centered vertically and horizontally	10	
Information entered into spreadsheet (25 taxpayers)	10	
Moved information "number of tax payers, etc. to cell F14	5	
Changed text: Least Tax Collected to Tax Collected by County:	1	
Inserted the following information in the cells listed: • In cell F8: Harris • In cell F9: Brazoria • In cell F10: Liberty • In cell F11: Montgomery	4	
Inserted the following information in the cells listed: • In cell F17 Place: Total Number of Taxpayers by County. • In cell F18, type Harris. • In cell F19, type Brazoria. • In cell F20, type Liberty. • In cell F21, type Montgomery.	5	
In cell G4, create a function that will calculate the total amount of tax collected	5	
In cell G5, create a function that calculates the most amount of tax collected	5	
In cell G6, create a function that calculates the average amount of tax collected	5	
In cell G8, create a function that totals all of the tax collected for Harris county residents	5	
In cell G9, create a function that totals all of the tax collected for Brazoria county residents	5	
In cell G10, create a function that totals all of the tax collected for Liberty county residents	5	
In cell G11, create a function that totals all of the tax collected for Montgomery county residents	5	
In cell G15, create a function that counts the number of taxpayers who paid taxes	5	
In cell G16, create a function that counts the number of taxpayers who have not paid taxes	5	
In cell G18, create a function that counts the number of taxpayers who live in Harris County	5	
In cell G19, create a function that counts the number of taxpayers who live in Brazoria County	5	

	Points Possible	Points Earned
In cell G20, create a function that counts the number of taxpayers who live in Liberty County	5	
In cell G21, create a function that counts the number of taxpayers who live in Montgomery County	5	
Entered 10 new taxpayer residents into spreadsheet at the bottom	10	
Updated the functions to include the new resident's information	10	
Worksheet printed landscape on one page with answers and one page showing formulas centered vertically and horizontally on the page	10	
Job 1 Subtotal	**160**	

Job 2 (Formatted worksheet)	Points Possible	Points Earned
Contestant # and Job # in right section of footer	10	
Merge and Center the title over the data	5	
Format the title to bold and size 20, use Ariel Black Font Style	15	
Change the column titles to Ariel Black font style and bold	5	
Change the following titles to Ariel Black font style and bold: • Taxes Collected • Tax Collected by County: • Number of Tax Payers: • Total Number of Tax Payers by County	10	
Add a thick bottom border to the title	10	
Add a bottom double border to the column titles (lastName, FirstName, etc.)	10	
Indent the text under Taxes Collected two times	10	
Indent the text under Tax Collected by County four times	10	
Indent the text under Number of Tax payers two times	10	
Indent the text under Total Number of Tax Payers by County four times	10	
Format column D (Tax) to currency with two decimal places	5	
Format G5:G11 to currency with two decimal places	5	
Increase row two height to 26.25	5	
Set rows 3-37 to height of 15.75	5	
Print out the formatted spreadsheet with centered horizontally and vertically on one page	10	
Job 2 Subtotal	**135**	

Job 3 (3-D Pie Chart)	Points Possible	Points Earned
Contestant # and Job # in right section of footer	10	
3-D Pie Chart using the information on tax collected by County	10	
Printed on full sheet, landscape in black and white	10	
Correct title: Tax Collected by County	5	
Title size 20 in Ariel Black font	10	
Move the legend to the top of the chart under the title	5	
Chart is moved to a new sheet, tab name: County Breakdown	10	
Job 3 Subtotal	65	
TOTAL POINTS	355	

JOB 1: *Create Spreadsheet with Formulas*

1. Starting in cell A1 with BPA Town Tax Breakdown, enter the following data into an Excel spreadsheet as shown below. Start LastName in cell A2. Taxes Collected should be in F3. Number of Tax Payers Should be in cell F8.

2. Complete the calculations as instructed in the rest of Job 1. Use Times New Roman size 10 font and landscape orientation with Narrow Margins.

BPA Town- Tax
Breakdown

LastName	FirstName	County	Tax		Taxes Collected
Adams	Jim	Harris	95		Total Tax Collected:
Akhmechet	Slava	Liberty	18		Most Tax Collected:
Allen	Matthew	Montgomery	69		Average Tax Collected:
Allison	Derek	Brazoria	0		Least Tax Collected:
Alter	Gerald	Brazoria	1		
Andersson	Marcus	Harris	19		Number of Tax Payers:
Angelidis	Anastasios	Liberty	67		Number Tax Payers who Paid:
Ardoin	Timothy	Brazoria	123		Number Tax Payers who haven't Paid:
Arthur	James	Harris	19		
Astle	Dave	Montgomery	322		
Athay	Mary	Liberty	0		
Aura	Tarmo	Brazoria	9		
Barnaby	Chris	Harris	8		
Beeblebrox	Zaphod	Brazoria	25		
Bemann	Travis	Brazoria	2		
Berglund	Mathias	Liberty	82		
Björklund	Martin	Liberty	15		
Blümle	Frieder	Harris	7		
Bogin	Ben	Montgomery	21		
Boston	Tim	Montgomery	3		
Boyd	James	Brazoria	3		
Boyer	Jason	Montgomery	5		
Briones	James	Brazoria	18		
Bryant	Eric	Harris	0		
Buschmann	Stefan	Harris	6		

3. **Move** the information *Number of Tax Payers, Number Tax Payers who Paid, and Number Tax Payers who haven't Paid,* down 6 rows. (Cell F14)

4. Change the text **Least Tax Collected:** to *Tax Collected by County:*

5. Insert below this new title the following counties:
   - In cell F8: Harris
   - In cell F9: Brazoria
   - In cell F10: Liberty
   - In cell F11: Montgomery

6. In cell F17 type: Total Number of Tax Payers by County.

7. In cell F18, type Harris.

8. In cell F19, type Brazoria.

9. In cell F20, type Liberty.

10. In cell F21, type Montgomery.

11. In cell G4, create a function that will calculate the total amount of tax collected.

12. In cell G5, create a function that calculates the most amount of tax collected.

13. In cell G6, create a function that calculates the average amount of tax collected.

14. In cell G8, create a function that totals all of the tax collected for Harris county residents.

15. In cell G9, create a function that totals all of the tax collected for Brazoria county residents.

16. In cell G10, create a function that totals all of the tax collected for Liberty county residents.

17. In cell G11, create a function that totals all of the tax collected for Montgomery county residents.

18. In cell G15, create a function that counts the number of Tax Payers who paid taxes.

19. In cell G16, create a function that counts the number of Tax Payers who have not paid taxes.

20. In cell G18, create a function that counts the number of Tax Payers who live in Harris County.

21. In cell G19, create a function that counts the number of Tax Payers who live in Brazoria County.

22. In cell G20, create a function that counts the number of Tax Payers who live in Liberty County.

23. In cell G21, create a function that counts the number of Tax Payers who live in Montgomery County.

24. You realize you left off 10 residents. Enter the information below at the end of the spreadsheet:

Campbell	Chris	Montgomery	0
Casaday	Mike	Brazoria	3
Cecil	Mark	Montgomery	17
Cedergren	Johnny	Harris	19
Chan	Marauder	Liberty	4
Chin	Sherman	Harris	73
Chounard	Jesse	Montgomery	5
Clougherty	Brendan	Liberty	3
Day	Derek	Brazoria	7
Deliyannis	Yannis	Montgomery	0

25. Update all functions to include the new residents you just entered.

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26. Print a copy of the worksheet vertically and horizontally centered, in landscape view, with gridlines, adjust column widths to make all data visible and print on one page.

JOB 2: *Format the Spreadsheet you created in Job 1 using the following instructions:*

1. Merge and center the title over cells A:G. Bold and change to size 20 font and use Ariel Black font style.

2. Change the column titles to Ariel Black font style and bold.

3. Change the following titles to Ariel Black font style and bold.

   - Taxes Collected:

   - Tax Collected by County:

   - Number of Tax Payers:

   - Total Number of Tax Payers by County

4. Add a thick bottom border to the title.

5. Add a bottom double border to the column titles (LastName, FirstName, etc.).

6. Indent the text under Taxes Collected two times.

7. Indent the text under Tax Collected by County four times.

8. Indent the text under Number of Tax Payers two times.

9. Indent the text under Total Number of Tax Payers by County four times.

10. Format Column D (Tax) to currency with two decimal places.

11. Format G4: G11 to currency with two decimal places.

12. Increase row two height to 26.25.

13. Set rows 3-37 to a height of 15.75.

14. Print out the formatted spreadsheet with it centered horizontally and vertically on one page.

JOB 3: *Create a 3-D Pie Chart*

Create a chart from the spreadsheet you have created in the previous jobs showing the Tax Collected by County. Move the chart to its own sheet named County Breakdown. Format the chart to look like the following.

- Title is Arial Black font size 20.
- Make sure the title of the chart is Tax Collected by County.
- Make sure the legend is under the chart title.
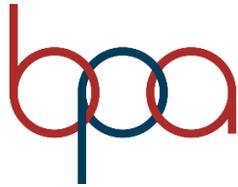- Print out the formatted chart on one full page in black and white.

You should have the following four printouts:

Job 1—Unformatted Spreadsheet

Job 1—Formulas

Job 2—Formatted Spreadsheet

Job 3—3-D Pie Chart

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Correct title: Tax Collected by County	5	
Title size 20 in Ariel Black font	10	
Move the legend to the top of the chart under the title	5	
Chart is moved to a new sheet, tab name: County Breakdown	10	
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JOB 1

BPA Town- Tax Breakdown

LastName	FirstName	County	Tax			
Adams	Jim	Harris	95	Taxes Collected		
Akhmechet	Slava	Liberty	18	Total Tax Collected :		1068
Allen	Matthew	Montgomery	69	Most Tax Collected :		322
Allison	Derek	Brazoria	0	Average Tax Collected :		30.51428571
Alter	Gerald	Brazoria	1	Tax Collected by County:		
Andersson	Marcus	Harris	19	Harris		154
Angelidis	Anastasios	Liberty	67	Brazoria		181
Ardoin	Timothy	Brazoria	123	Liberty		520
Arthur	James	Harris	19	Montgomery		243
Astle	Dave	Montgomery	322			
Athay	Mary	Liberty	0			
Aura	Tarmo	Brazoria	9	Number of Tax Payers:		
Barnaby	Chris	Harris	8	Number Tax Payers who Paid:		30
Beeblebrox	Zaphod	Brazoria	25	Number Tax Payers who haven't Paid:		5
Bemann	Travis	Brazoria	2	Total number of Tax Payers by County		
Berglund	Mathias	Liberty	82	Harris		9
Björklund	Martin	Liberty	15	Brazoria		10
Blümle	Frieder	Harris	7	Liberty		7
Bogin	Ben	Montgomery	21	Montgomery		9
Boston	Tim	Montgomery	3			
Boyd	James	Brazoria	3			
Boyer	Jason	Montgomery	5			
Briones	James	Brazoria	18			
Bryant	Eric	Harris	0			
Buschmann	Stefan	Harris	6			
Campbell	Chris	Montgomery	0			
Casaday	Mike	Brazoria	3			
Cecil	Mark	Montgomery	17			
Cedergren	Johnny	Harris	19			
Chan	Marauder	Liberty	4			
Chin	Sherman	Harris	73			
Chounard	Jesse	Montgomery	5			
Clougherty	Brendan	Liberty	3			
Day	Derek	Brazoria	7			
Deliyannis	Yannis	Montgomery	0			

BPA Town- Tax Breakdown

LastName	FirstName	County	Tax (Coins)			
Adams	Jim	Harris	95	Taxes Collected		
Akhmechet	Slava	Liberty	18	Total Tax Collected (coins):	=SUM(D3:D37)	
Allen	Matthew	Montgomery	69	Most Tax Collected (coins):	=MAX(D3:D37)	
Allison	Derek	Brazoria	0	Average Tax Collected (coins):	=AVERAGE(D3:D37)	
Alter	Gerald	Brazoria	1	Tax Collected by County:		
Andersson	Marcus	Harris	19	Harris	=SUMIF(C3:C27,"Harris",D3:D37)	
Angelidis	Anastasios	Liberty	67	Brazoria	=SUMIF(C3:C27,"Brazoria",D3:D37)	
Ardoin	Timothy	Brazoria	123	Liberty	=SUMIF(C4:C28,"Liberty",D3:D37)	
Arthur	James	Harris	19	Montgomery	=SUMIF(C5:C29,"Montgomery",D3:D37)	
Astle	Dave	Montgomery	322			
Athay	Mary	Liberty	0			
Aura	Tarmo	Brazoria	9	Number of Tax Payers:		
Barnaby	Chris	Harris	8	Number Tax Payers who Paid:	=COUNTIF(D3:D37,">0")	
Beeblebrox	Zaphod	Brazoria	25	Number Tax Payers who haven't Paid:	=COUNTIF(D3:D37,"=0")	
Bemann	Travis	Brazoria	2	Total number of Tax Payers by County		
Berglund	Mathias	Liberty	82	Harris	=COUNTIF(C3:C37,"Harris")	
Björklund	Martin	Liberty	15	Brazoria	=COUNTIF(C3:C37,"Brazoria")	
Blümle	Frieder	Harris	7	Liberty	=COUNTIF(C3:C37,"LIberty")	
Bogin	Ben	Montgomery	21	Montgomery	=COUNTIF(C3:C37,"Montgomery")	
Boston	Tim	Montgomery	3			
Boyd	James	Brazoria	3			
Boyer	Jason	Montgomery	5			
Briones	James	Brazoria	18			
Bryant	Eric	Harris	0			
Buschmann	Stefan	Harris	6			
Campbell	Chris	Montgomery	0			
Casaday	Mike	Brazoria	3			
Cecil	Mark	Montgomery	17			
Cedergren	Johnny	Harris	19			
Chan	Marauder	Liberty	4			
Chin	Sherman	Harris	73			
Chounard	Jesse	Montgomery	5			
Clougherty	Brendan	Liberty	3			
Day	Derek	Brazoria	7			
Deliyannis	Yannis	Montgomery	0			

Job 2

BPA TOWN - TAX BREAKDOWN

LastName	FirstName	County	Tax
Adams	Jim	Harris	$95.00
Akhmechet	Slava	Liberty	$18.00
Allen	Matthew	Montgomery	$69.00
Allison	Derek	Brazoria	$0.00
Alter	Gerald	Brazoria	$1.00
Andersson	Marcus	Harris	$19.00
Angelidis	Anastasios	Liberty	$67.00
Ardoin	Timothy	Brazoria	$123.00
Arthur	James	Harris	$19.00
Astle	Dave	Montgomery	$322.00
Athay	Mary	Liberty	$0.00
Aura	Tarmo	Brazoria	$9.00
Barnaby	Chris	Harris	$8.00
Beeblebrox	Zaphod	Brazoria	$25.00
Bemann	Travis	Brazoria	$2.00
Berglund	Mathias	Liberty	$82.00
Björklund	Martin	Liberty	$15.00
Blümle	Frieder	Harris	$7.00
Bogin	Ben	Montgomery	$21.00
Boston	Tim	Montgomery	$3.00
Boyd	James	Brazoria	$3.00
Boyer	Jason	Montgomery	$5.00
Briones	James	Brazoria	$18.00
Bryant	Eric	Harris	$0.00
Buschmann	Stefan	Harris	$6.00
Campbell	Chris	Montgomery	$0.00
Casaday	Mike	Brazoria	$3.00
Cecil	Mark	Montgomery	$17.00
Cedergren	Johnny	Harris	$19.00
Chan	Marauder	Liberty	$4.00
Chin	Sherman	Harris	$73.00
Chounard	Jesse	Montgomery	$5.00
Clougherty	Brendan	Liberty	$3.00
Day	Derek	Brazoria	$7.00
Deliyannis	Yannis	Montgomery	$0.00

Taxes Collected

Total Tax Collected:	$1,068.00
Most Tax Collected:	$30.51
Average Tax Collected:	$30.51

Tax Collected by County:

Harris	$154.00
Brazoria	$181.00
Liberty	$520.00
Montgomery	$243.00

Number of Tax Payers:

Number Tax Payers who Paid:	30
Number Tax Payers who haven't Paid:	5

Total number of Tax Payers by County

Harris	9
Brazoria	10
Liberty	7
Montgomery	9

Job 3

Tax Collected by County

■ Harris □ Brazoria ▨ Liberty ■ Montgomery

$243.00 $154.00 $181.00 $520.00