

# ADVANCED SPREADSHEET APPLICATIONS (235)

## REGIONAL – 2017

Job: Family Budget \_\_\_\_\_ (375 points)

**TOTAL POINTS** \_\_\_\_\_ (375 points)

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

1. Contestant must hand in this test booklet and all printouts. Failure to do so will result in disqualification.
2. No equipment, supplies, or materials other than those specified for this event are allowed in the testing area. No previous BPA tests and/or sample tests or facsimile (handwritten, photocopied, or keyed) are allowed in the testing area.
3. Electronic devices will be monitored according to ACT standards.

No more than ten (10) minutes orientation  
No more than ninety (90) minutes testing time  
No more than ten (10) minutes wrap-up

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## **GENERAL INSTRUCTIONS**

1. Key your contestant number in the right section of a footer on each printout. Your name or initials should *not* appear on any work you submit.
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, arrange all jobs in the correct printout order (included in instructions).
4. Write your contestant number in the provided spaces on the cover page.
5. Center the following information in a header on each printout: the file name and the sheet name. Each item should appear on a separate line in the header.
6. Proofread carefully and make sure no information is truncated.
7. Center each worksheet vertically and horizontally on the page and fit each worksheet on one page. *Print all worksheets in Landscape format.*

**SCORING**

	<u>Points Possible</u>	<u>Score</u>
Typos (0 errors 100 points, 1 error 90 points, 2 errors 70 points, 3 errors 50 points, 4 or more errors 0 points)	100	
Row 1 title Times New Roman, 24 pt. Bold.; Row 2 title Times New Roman 14 pt. Bold;	10	
Worksheet named Martin Budget	5	
Row 23 – Months are displayed at -45° with gray fill and borders	15	
Rows 3, 7, 20, 26 & 37 have double border on the bottom border (3 pts each)	15	
Cell References used in Rows 24 & 25	10	
Sum Function used on Rows 7, 20, 26 & 37	20	
Average Function Used in Cells B10:B19	20	
Net Cash Flow Formula entered correctly	25	
Running Total Formula contains Absolute Cell Reference	15	
Line Sparkline Graphs showing in Column C next to their expenses	10	
High Point showing on Sparkline graph	10	
Cell E6 is a cell reference	5	
Row 39 shows correct values after using Goal Seek (2 pts a cell)	24	
Rows 7, 20, 26, 37, 38, 39 & 41 showing as Accounting format with 0 decimal places (2 pts per row)	14	
Raise Amount is correct value	10	
Line Chart printed as a full page	10	
Correct title and font size on Line Chart	10	
Axis Label does not cover Chart information	5	
Line Chart Size 4 used	6	
Maximum axis value of 20000 and Minimum axis value of -5000 used	6	
Y axis values on Line Chart in Accounting format with negative numbers showing in parentheses	10	
All printouts completed as instructed with contestant number on right side of footer and file name and tab name listed in the header (all or nothing)	15	
All printouts submitted in correct order as instructed	5	
<b>TOTAL</b>	<b>375</b>	

**Special Instructions**

***Please use the following procedures for each worksheet that you submit:***

- Save early and often. Loss of data, for any reason, is the contestant’s responsibility.
- Check the spelling on all worksheets.
- Put your contestant number in the right section of footer on each printout. Your name or initials should *not* appear on any work you submit.
- Center the following information in a header on each printout: the file name and the sheet name. Each item should appear on a separate line in the header.
- Proofread carefully and make sure no information is truncated.
- Center each worksheet vertically and horizontally on the page and fit each worksheet on one page. *Print all worksheets in Landscape format.*

Noah and Ava Martin are trying to plan their expenses for the upcoming year. They have asked you to help them with their data.

- Create a new Excel Spreadsheet file and save the file as ***235\_AdvSpreadR17\_ContestantNumber*** in the location specified by the proctor.
- Rename Sheet 1: ***Martin Budget***

Type the following information as shown AND formatted below. All type is Times New Roman font size 12 unless stated different. Row one is font size 24. Row 3 is font size 14.

	A	B	C	D	E	F	G	H	I	J	K
1	<b>Martin Family Budget</b>										
2											
3	<b>Monthly Income Statement</b>										
4	<b>Income</b>			<b>Savings</b>			<b>Salary</b>				
5	Noah's Salary			Initial			Initial	0			
6	Ava's Salary			Final			Raise Amt				
7	<b>Total</b>										
8											
9	<b>Expenses</b>										
10	Rent										
11	Food										
12	Utilities										
13	Phone										
14	Car Payments										
15	Insurance										
16	Tuition										
17	Books & Supplies										
18	Travel										
19	Miscellaneous										
20	<b>Total</b>										
21											
22											

- Insert a page break at row 21 so that this information on the screenshot above prints on its own page.
- Enter in Noah’s Salary as \$2,570 a month, and Ava’s Salary as \$3,294 into the appropriate cells B5 and B6. Use an Accounting number format with zero decimal points.
- Enter Noah’s Salary in cell H5.
- Enter and format the rest of the spreadsheet to look like the screenshot below. Enter the expenses as listed below. (HINT: You will need to use a smaller font to make sure that Income is not truncated: Font size 9 is used in the example below)

	A	B	C	D	E	F
22						
23	<b>Income &amp; Expenses</b>		<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>
24	Income	Noah				
25		Ava				
26		<b>Total</b>				
27	Expenses	Rent	900	900	900	900
28		Food	875	730	795	825
29		Utilities	165	173	200	195
30		Phone	120	120	120	120
31		Car Payments	440	440	440	440
32		Insurance	375	375	375	425
33		Tuition	8923	0	0	0
34		Books & Supplies	2115	0	0	0
35		Travel	320	150	210	720
36		Miscellaneous	200	250	120	150
37	<b>Total</b>					
38		<b>Net Cash Flow</b>				
39		<b>Running Total</b>				
40						
41		<b>Savings</b>				
42						
43						

Due to Printing: The Rows above have been hidden to show the rest of the year’s expenses.

	A	F	G	H	I	J	K	L	M	N	O
22											
23	Income & Expenses	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
24	Income										
25											
26											
27	Expenses	900	900	900	900	900	975	975	975	975	
28		825	855	815	885	920	942	875	975	945	
29		195	250	210	200	250	160	160	145	155	
30		120	120	120	120	120	120	120	120	120	
31		440	440	440	440	440	440	440	440	440	
32		425	425	425	520	520	520	520	520	520	
33		0	0	2419	0	8923	0	0	0	1230	
34		0	0	975	0	2450	0	0	0	0	
35		720	175	350	1200	625	185	215	420	480	
36		150	250	120	150	175	210	250	270	350	
37											
38											
39											

- In Rows 24 & 25 enter Noah and Ava’s monthly income by referencing the estimates in cells B5 and B6. Use an absolute reference.
- In Row 26 calculate the Martin’s estimated Monthly Income using the Sum function.
- In Row 37, use the Sum function to calculate the Martin’s total estimated expenses for each month.
- In Row 38, calculate each month’s net cash flow. Cash Flow is the Total Income minus the Total Expenses.
- In Row 39, calculate the running total of the new cash flow using an absolute cell reference so that Ava and Noah can see how their net cash flow fluctuates each month. Use January as the beginning balance.
- In Column B, use a formula to find the average of all the listed expenses (cells B10:B19) and calculate the sum of all these averages in cell B20.
- The Martin’s have at this moment \$3,006 in their savings account. Fill this information in as their initial savings amount in cell E5.
- In Row 41, using an absolute cell reference, calculate the end-of-month balance in their savings account by adding the E5 amount to the net cash flow in row 39. In E6, create a reference for the saving balance for the month of December.
- Format rows 7, 20, 26, 37, 38, 39 and 41 as Accounting format with zero decimal places.

- Format all other numbers to Accounting format with no dollar sign and zero decimal places.
- The Martin's would like to better be prepared in the future for when their tuition payments are due and have \$17,500 in savings by December next year. Noah is planning on asking for a raise to go along with his new promotion to head chief. Using Goal Seek, determine the new salary Noah should make so that they can meet their goal.
- In Cell H6, using cell references calculate how much of a raise Noah needs to ask for with his new job in order for the Martin's to reach their savings goal.
- **Charts:**
  - In Column C, next to each expense, create a line Sparkline chart next to each expense with a marker on the high point.
  - Using row 41, create a line chart on a new worksheet so that the Martin's can see how their savings account changes over time.
    - Choose Line Chart Style 4.
    - Maximum Y axis value should be \$20,000.
    - Minimum Y axis value should be -\$5,000.
    - The Y axis values should be shown as Accounting with negative numbers showing in parentheses.
    - Change the Title of this chart to be Martin's Savings with a font size of 32.
    - Change the Vertical Axis title to Amount in Savings displayed as a Rotated Title.
    - **Insert the value data labels.**
      - Make sure that all Labels are able to be seen and not covering any of the chart information.

***CORRECT ORDER FOR TURNING IN PRINTOUTS***

- Martin Budget Page 1
- Martin Budget Page 2
- Martin Budget Page 1 showing formulas
- Martin Budget Page 2 showing formulas
- Chart 1



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REGIONAL – 2017

Job: Family Budget \_\_\_\_\_ (375 points)

***TOTAL POINTS*** \_\_\_\_\_ (***375 points***)

**Judge/Graders: Please double check and verify all  
scores and answer keys!**

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**ADVANCED SPREADSHEET APPLICATIONS - REGIONAL 2017**

**ANSWER KEY**



	<b>Points Possible</b>	<b>Score</b>
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# Martin Family Budget

## Monthly Income Statement

Income		Savings		Salary	
Noah's Salary	\$ 3,799	Initial	\$ 3,006	Initial:	\$ 2,570
Ava's Salary	3,294	Final	\$ 17,500	Raise Amt	\$ 1,229
<b>Total</b>	<b>\$ 7,093</b>				

## Expenses

Rent	\$ 925	
Food	\$ 870	
Utilities	\$ 189	
Phone	\$ 120	
Car Payments	\$ 440	
Insurance	\$ 460	
Tuition	\$ 1,791	
Books & Supplies	\$ 462	
Travel	\$ 421	
Miscellaneous	\$ 208	
<b>Total</b>	<b>\$ 5,885</b>	

ADVANCED SPREADSHEET APPLICATIONS - REGIONAL 2017

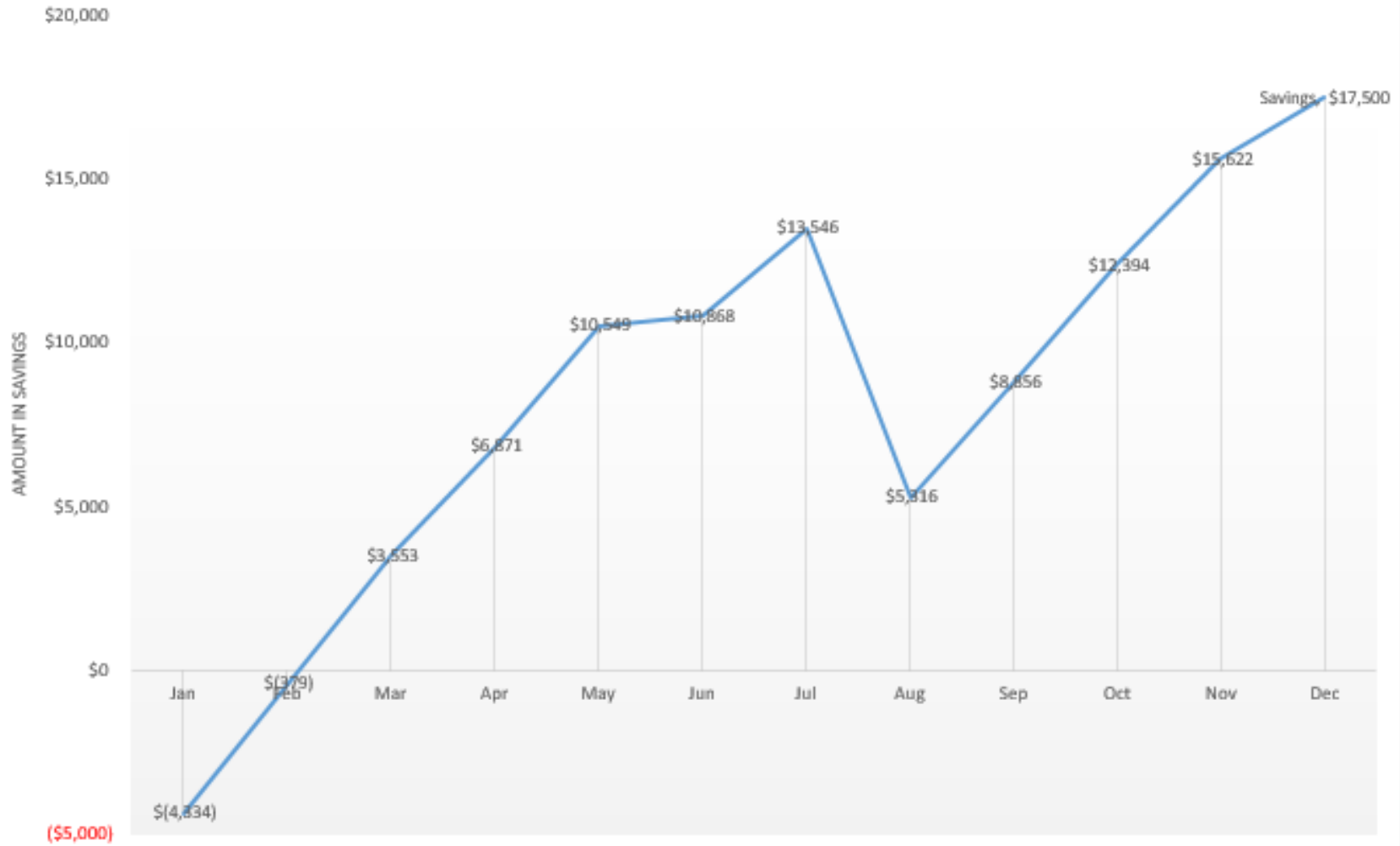
ANSWER KEY



Income & Expenses		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Income	Noah	3,799	3,799	3,799	3,799	3,799	3,799	3,799	3,799	3,799	3,799	3,799	3,799
	Ava	3,294	3,294	3,294	3,294	3,294	3,294	3,294	3,294	3,294	3,294	3,294	3,294
	<b>Total</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>	<b>\$ 7,093</b>
Expenses	Rent	900	900	900	900	900	900	900	900	975	975	975	975
	Food	875	730	795	825	855	815	885	920	942	875	975	945
	Utilities	165	173	200	195	250	210	200	250	160	160	145	155
	Phone	120	120	120	120	120	120	120	120	120	120	120	120
	Car Payments	440	440	440	440	440	440	440	440	440	440	440	440
	Insurance	375	375	375	425	425	425	520	520	520	520	520	520
	Tuition	8,923	0	0	0	0	2,419	0	8,923	0	0	0	1,230
	Books & Supplies	2,115	0	0	0	0	975	0	2,450	0	0	0	0
	Travel	320	150	210	720	175	350	1,200	625	185	215	420	480
	Miscellaneous	200	250	120	150	250	120	150	175	210	250	270	350
	<b>Total</b>	<b>\$ 14,433</b>	<b>\$ 3,138</b>	<b>\$ 3,160</b>	<b>\$ 3,775</b>	<b>\$ 3,415</b>	<b>\$ 6,774</b>	<b>\$ 4,415</b>	<b>\$ 15,323</b>	<b>\$ 3,552</b>	<b>\$ 3,555</b>	<b>\$ 3,865</b>	<b>\$ 5,215</b>
	<b>Net Cash Flow</b>	<b>\$ (7,340)</b>	<b>\$ 3,955</b>	<b>\$ 3,933</b>	<b>\$ 3,318</b>	<b>\$ 3,678</b>	<b>\$ 319</b>	<b>\$ 2,678</b>	<b>\$ (8,230)</b>	<b>\$ 3,541</b>	<b>\$ 3,538</b>	<b>\$ 3,228</b>	<b>\$ 1,878</b>
<b>Running Total</b>	<b>\$ (7,340)</b>	<b>\$ (3,385)</b>	<b>\$ 547</b>	<b>\$ 3,865</b>	<b>\$ 7,543</b>	<b>\$ 7,862</b>	<b>\$ 10,540</b>	<b>\$ 2,310</b>	<b>\$ 5,850</b>	<b>\$ 9,388</b>	<b>\$ 12,616</b>	<b>\$ 14,494</b>	
<b>Savings</b>	<b>\$ (4,334)</b>	<b>\$ (379)</b>	<b>\$ 3,553</b>	<b>\$ 6,871</b>	<b>\$ 10,549</b>	<b>\$ 10,868</b>	<b>\$ 13,546</b>	<b>\$ 5,316</b>	<b>\$ 8,856</b>	<b>\$ 12,394</b>	<b>\$ 15,622</b>	<b>\$ 17,500</b>	



# Martin's Savings





<b>Martin Family Bud</b>							
<b>Monthly Income Statement</b>							
<b>Income</b>			<b>Savings</b>			<b>Salary</b>	
Noah's Salary	3798.83333333333		Initial	3006		Initial:	2570
Ava's Salary	3294		Final	=N41		Raise Amt	=B5-H5
<b>Total</b>	<b>=SUM(B5:B6)</b>						
<b>Expenses</b>							
Rent	=AVERAGE(C27:N27)						
Food	=AVERAGE(C28:N28)						
Utilities	=AVERAGE(C29:N29)						
Phone	=AVERAGE(C30:N30)						
Car Payments	=AVERAGE(C31:N31)						
Insurance	=AVERAGE(C32:N32)						
Tuition	=AVERAGE(C33:N33)						
Books & Supplies	=AVERAGE(C34:N34)						
Travel	=AVERAGE(C35:N35)						
Miscellaneous	=AVERAGE(C36:N36)						
<b>Total</b>	<b>=SUM(B10:B19)</b>						

ADVANCED SPREADSHEET APPLICATIONS - REGIONAL 2017

ANSWER KEY



Income & Expenses		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Income	Noah	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5	=SB5
	Ava	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6	=SB6
	<b>Total</b>	=SUM(C24:C25)	=SUM(D24:D25)	=SUM(E24:E25)	=SUM(F24:F25)	=SUM(G24:G25)	=SUM(H24:H25)	=SUM(I24:I25)	=SUM(J24:J25)	=SUM(K24:K25)	=SUM(L24:L25)	=SUM(M24:M25)	=SUM(N24:N25)
Expenses	Rent	900	900	900	900	900	900	900	900	975	975	975	975
	Food	875	730	795	825	855	815	885	920	942	875	975	945
	Utilities	165	173	200	195	250	210	200	250	160	160	145	155
	Phone	120	120	120	120	120	120	120	120	120	120	120	120
	Car Payments	440	440	440	440	440	440	440	440	440	440	440	440
	Insurance	375	375	375	425	425	425	520	520	520	520	520	520
	Tuition	8923	0	0	0	0	2419	0	8923	0	0	0	1230
	Books & Supplies	2115	0	0	0	0	975	0	2450	0	0	0	0
	Travel	320	150	210	720	175	350	1200	625	185	215	420	480
	Miscellaneous	200	250	120	150	250	120	150	175	210	250	270	350
	<b>Total</b>	=SUM(C27:C36)	=SUM(D27:D36)	=SUM(E27:E36)	=SUM(F27:F36)	=SUM(G27:G36)	=SUM(H27:H36)	=SUM(I27:I36)	=SUM(J27:J36)	=SUM(K27:K36)	=SUM(L27:L36)	=SUM(M27:M36)	=SUM(N27:N36)
	<b>Net Cash Flow</b>	=C26-C37	=D26-D37	=E26-E37	=F26-F37	=G26-G37	=H26-H37	=I26-I37	=J26-J37	=K26-K37	=L26-L37	=M26-M37	=N26-N37
<b>Running Total</b>	=SUM(SC\$38:C38)	=SUM(SC\$38:D38)	=SUM(SC\$38:E38)	=SUM(SC\$38:F38)	=SUM(SC\$38:G38)	=SUM(SC\$38:H38)	=SUM(SC\$38:I38)	=SUM(SC\$38:J38)	=SUM(SC\$38:K38)	=SUM(SC\$38:L38)	=SUM(SC\$38:M38)	=SUM(SC\$38:N38)	
<b>Savings</b>	=SE5+C39	=SE5+D39	=SE5+E39	=SE5+F39	=SE5+G39	=SE5+H39	=SE5+I39	=SE5+J39	=SE5+K39	=SE5+L39	=SE5+M39	=SE5+N39	