Introduction to Data Analytics for Accounting 1st edition Richardson Solutions Manual

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Chapter 1 End-of-Chapter Assignment and Lab Solutions

Multiple Choice Questions

1. (LO 1-2) Which is the lowest level of skills in Bloom's Taxonomy?
    a. Create
    b. Remember
    c. Apply
    d. Analyze
2. (LO 1-2) Which is the highest level of skills in Bloom's Taxonomy?
    a. Create
    b. Apply
    c. Analyze
    d. Understand
3. (LO 1-2) Which is the appropriate ordering of skills in Bloom's Taxonomy, where the ">" symbol means higher order skills?
    a. Remember > Apply
    b. Apply > Analyze
    c. Analyze > Evaluate
    d. Create > Analyze
4. (LO 1-3) Which component of the AMPS model most appropriately addresses the axiom, "Your data won't speak unless you ask it the right data analytics questions"?
    a. Ask the Question
    b. Master the Data
    c. Perform the Analysis
    d. Share the Story
5. (LO 1-3) Which component of the AMPS model most appropriately addresses the question of the best way to communicate data analytics findings with a decision maker?
    a. Ask the Question
    b. Master the Data
    c. Perform the Analysis
    d. Share the Story
6. (LO 1-3) What type of question is predicting whether a company will go bankrupt in the coming two years?
    a. What happened? What is happening?
    b. Why did it happen? What are the root causes of past results?
    c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
    d. What should we do based on what we expect will happen? How do we optimize our performance based on potential constraints?"
7. (LO 1-3) What type of question is choosing to take certain tax deductions based on the way managers believe tax legislation will change in the near future?

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a. What happened? What is happening?
b. Why did it happen? What are the root causes of past results?
c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
d. What should we do based on what we expect will happen? How do we optimize our performance based on potential constraints?"

8. (LO 1-3) What type of question is finding the detail to more clearly understand why net income is decreasing when revenues are increasing?
a. What happened? What is happening?
b. Why did it happen? What are the root causes of past results?
c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
d. What should we do based on what we expect will happen? How do we optimize our performance based on potential constraints?"
9. (LO 1-3) What type of question is determining how much a company paid for state and federal income tax?
a. What happened? What is happening?
b. Why did it happen? What are the root causes of past results?
c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
d. What should we do based on what we expect will happen? How do we optimize our performance based on potential constraints?"
10. (LO 1-3) A _____ might be used to evaluate which journal entries are outliers.
a. regression analysis
b. Benford's law analysis
c. histogram
d. sum function (Excel SUM())

Discussion Questions

1. (LO 1-1) The computer is better at automated, repetitive tasks since it can be programmed. The computer is also not subject to fatigue and can process massive amounts of data easier than a human can. Most of the value-added tasks and higher order thinking skills, such as analyzing, evaluating and creating, are performed better by human accountants because they are not easily programmed by a set of fixed rules. The ability to recognize tradeoffs, evaluating alternatives, and evaluating ad hoc facts are all better performed by humans.
2. (LO 1-2) The skills taught in the introduction to financial accounting were the lower order thinking skills (noted in Bloom's Taxonomy) such as remembering, understanding and applying. Application of journal entries, computing trial

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balances, recording transactions, bank reconciliation, etc. are all examples of lower order skills.

3. (LO 1-3) Accountants understand the tradeoffs between relevant data and reliable data (such as that data which might exhibit more representational faithfulness).
   Accountants also understand the tradeoffs between unstructured and structured data, data internal or external to the company, and even the potential cost of acquiring and processing the data as compared to the potential value provided by use of the data.
4. (LO 1-3) Mastering the data includes accessing, cleaning, and transforming the data needed to prepare the data for analysis.
5. (LO 1-3) Data analytics might be viewed as successively peeling the layer of an onion. By peeling the first layer of the onion, you now are able to see the next layer and evaluate it and remove it to get to the third layer, etc. Often times, the AMPS model must be performed multiple times, refining the question (Ask the Question), possibly considering different types of data (Master the Data), performing additional analysis (Perform the Analysis) and retelling the story in each iteration (Sharing the Story) before the issue/problem/challenge can be finally addressed with some confidence.
6. (LO 1-3) Descriptive analysis reports what happened. Generally, evaluating the revenues and earnings performance starts with descriptive analysis and continues with diagnostic analysis to understand "Why it happened".

Brief Exercises

1. **(LO1-1, LO1-2): Match the data analytics term to its data analytics definition:**

Data Analytics Term	**Data Analytics Definition**
Bloom's Taxonomy	An explanation of hierarchical forms of thinking and learning skills in education
data analytics	The process of evaluating data with the purpose of drawing conclusions to address all types of questions, including accounting questions.
dynamic	Characterized by constant update, change, or activity.

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information overload	Access or exposure to too much information to be able to process.
static	Characterized by the lack of constant update, change, or activity.

2. **(LO1-3): Match the components of the AMPS model to data analytics tasks.**

Data Analytics Task	**AMPS Model Component (i.e., Ask the Question, Master the Data, Perform the Analysis, Share the Story)**
Dashboard providing daily sales in the Pacific Northwest.	Share the Story
Checking the data for errors and missing data items before the data is analyzed.	Master the Data
Vendor trying to decide which product they should sell at Walmart.	Ask the Question
Using a histogram to evaluate whether journal entries were entered by an unauthorized employee.	Perform the Analysis
Deciding the best way to communicate the data analysis findings to management.	Share the Story

3. **(LO1-3): Match the components of the AMPS model to data analytics tasks.**

Data Analytics Task	**AMPS Model Component (i.e., Ask the Question, Master the Data, Perform the Analysis, Share the Story)**
Deciding which question to ask that might help management best assess strategy.	Ask the Question
Running a regression analysis to evaluate the impact of advertising.	Perform the Analysis
Extracting data from the financial reporting system and prep for use in a pivot table.	Master the Data
Publishing financial statements store-by-store.	Share the Story

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Analyzing how profits will change if gasoline prices go up in the coming year.	Perform the Analysis

Problems

1. **(LO1-2): Match the components of the AMPS model to data analytics tasks.**

Component of Bloom's Taxonomy	**Bloom's Taxonomy Component (Remember, Understand, Apply, Analyze, Evaluate, Create)**	**Who has the advantage in this component? (Human or Machine)**
Judging the value of information or ideas.	Evaluate	Human
Recognizing and recalling facts.	Remember	Machine
Combining parts to make a new whole.	Create	Human
Applying the facts, rules, concepts and ideas.	Apply	Machine
Breaking down information into component parts.	Analyze	Human
Comprehending what the facts mean.	Understand~~ing~~	Machine

2. **(LO1-3): For each of the questions below, categorize them as one of the following question types:**
    a. What happened? What is happening?
    b. Why did it happen? What are the root causes of past results?
    c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
    d. What should we do, based on what we expect will happen? How do we optimize our performance based on potential constraints?"

Data Analytics Question	**Question Type**
How much did we pay in federal taxes last year?	a. What happened? What is happening?

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If we have all 12/31 year-end audit clients, how will we organize our audit work in the new year?	d. What should we do, based on what we expect will happen? How do we optimize our performance based on potential constraints?"
Can the IRS find those individuals or corporations evading taxes using predictive techniques?	c. Will it happen in the future? What is the probability something will happen? Is it forecastable?
Did the airline company's on-time departures improve this past month?	a. What happened? What is happening?
Can our variance analysis help explain why the labor expenses increased over the past year?	b. Why did it happen? What are the root causes of past results?

3. **(LO 1-3)** For each of the questions below, categorize the appropriate statistical technique that should be used to perform the analysis.

   a. Regression analysis
   b. Benford's Law
   c. What-if/Goal Seek
   d. Histogram
   e. PivotTable

Data Analytics Question	**Statistical Technique**
Finding the frequency of all transactions, from the minimum to the maximum	d. Histogram
Looking for potentially fraudulent transactions	b. Benford's Law
Minimizing tax payment based on expected changes in tax legislation	c. What-if/Goal Seek
Segregating Total Costs into Fixed and Variable Cost Components	a. Regression analysis
Displaying total accounts receivable balance by days overdue (aging)	e. PivotTable

4. **(LO1-3):** Which of the following components of the AMPS model would each data analytics question be?

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a. Ask the Question
b. Master the Data
c. Perform the Analysis
d. Share the Story

Data Analytics Question	**Which component of the AMPS Model?**
Management wants answers on why certain products are unprofitable	Ask the Question
The data has lots of missing data	Master the Data
Should we report this with a graph or in a table?	Share the Story
The analysis was done using a sort command	Perform the Analysis
The data comes from last year's financial statements	Master the Data
A dashboard is used to communicate the results	Share the Story
Which audit tests were performed on the data	Perform the Analysis

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Lab 1-1 Solution

Lab 1-1 Submission

	Trial Balance	
	Debit	Credit
Cash	$ 44,228	
Accounts Receivable	22,200	
Allowance for Doubtful Accounts		6,000
Prepaid Insurance		200
Computer Supplies	800	
Supplies	145	
Equipment	19,300	
Building	32,000	
Accumulated Depreciation		1,000
Notes Payable		27,300
Common Stock		50,000
Service Revenue		94,800
Salaries Expense	20,800	
Travel Expense	7,897	
Rent Expense	7,000	
Repairs Expense	7,000	
Depreciation Expense	1,000	
Insurance Expense	1,400	
Misc. Expense	175	
Payroll Tax Expense	4,400	
Supplies Expense	255	
Training Expense	1,800	
Utilities Expense	2,900	
Bad Debt Expense	6,000	
	$ 179,300	$ 179,300

Check to ensure that total debits equal total credits and complete the trial balance.

Lab 1-1 Multiple Choice Questions

1. What are the total credits for the final trial balance?
    a. 297,927
    b. 179,300
    c. Cannot be calculated
2. What is used in Excel to compute total debits and total credits from the transactions?
    a. SUM() function
    b. Calculator
    c. AVG() function
    d. Pivot Table

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3. What is used in Excel to compute Net Debits and Net Credits?
    a. **Calculated Fields, Items and Sets**
    b. SUM() function
    c. Calculator
    d. AVG() function
4. Which asset, in the normal course of business, should not have a credit balance as shown in the trial balance?
    a. Accumulated Depreciation
    b. **Prepaid insurance**
    c. Allowance for Doubtful Accounts
5. What is the calculation for the Net Credits computation in the Calculated Fields, Items and Sets?
    a. IF(Debit>Credit, Debit – Credit)
    b. IF(Debit>Credit, Credit –Debit)
    c. **IF(Credit>Debit, Credit – Debit)**
    d. IF(Credit>Debit, Debit – Credit)

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Lab 1-1 Alt Submission

	Debit	Credit
Cash	$ 50,628	
Accounts Receivable	22,200	
Allowance for Doubtful Accounts		$ 5,000
Prepaid Insurance	850	
Computer Supplies	700	
Supplies	245	
Equipment	17,200	
Building	30,000	
Accumulated Depreciation		1,100
Notes Payable		26,200
Common Stock		50,000
Sales Revenue		93,800
Salaries Expense	15,900	
Travel Expense	7,397	
Rent Expense	7,000	
Repairs Expense	8,300	
Depreciation Expense	1,100	
Insurance Expense	1,350	
Misc. Expense	325	
Payroll Tax Expense	4,200	
Supplies Expense	255	
Training Expense	1,700	
Utilities Expense	1,500	
Bad Debt Expense	5,000	
Postage Expense	250	
	$ 176,100	$ 176,100

Lab 1-1 Alt Multiple Choice Questions

1. What are the total credits for the final trial balance?
    a. 284,477
    b. 176,100
    c. Cannot be calculated
2. How much is total liabilities in the trial balance?
    a. 76,200
    b. 32,300
    c. 26,200
    d. 176,100
3. In a trial balance, the total debits should equal total credits.
    a. True
    b. False

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4. A trial balance includes accounts from the _____ and _____ .
    a. Income statement, balance sheet and statement of cash flows
    b. Income statement and balance sheet
    c. Balance sheet and statement of cash flows
    d. Income statement and statement of cash flows.
5. What is the calculation for the Net Debits computation in the Calculated Fields, Items and Sets?
    a. IF(Credit>Debit, Credit – Debit)
    b. IF(Credit>Debit, Debit – Credit)
    c. IF(Debit>Credit, Debit – Credit)
    d. IF(Debit>Credit, Credit –Debit)

Lab 1-2 Solution

Lab 1-2 Submission

Take a screenshot of the depreciation schedule for 2022 and label it "Lab 1-2 Submission 1.jpg".

	A	B	C	D	E	F	G	H
1	Current Year	2022						
2				Original				
3	Year Placed in Service	Useful Life	Description	Cost	Salvage Value	SLN	DDB	SYD
4	2019	5	Shovel	50	10	8	7	8
5	2021	5	Garden fork	50	10	8	20	13
6	2019	5	Rake	50	10	8	7	8
7	2019	5	Dutch hoe	50	10	8	7	8
8	2020	5	Garden fork	50	10	8	12	11
9	2018	7	Lawn Shears	20	5	2	2	2
10	2016	7	Pruners	80	10	10	4	5
11	2019	5	Trowel	20	5	3	2	3
12	2020	5	Chain Saw	650	50	120	156	160
13	2019	5	Power Trimmer	650	50	120	94	120
14	2017	10	Trailer for Equipment	2,000	200	180	164	196
15	2020	5	Push Lawnmower 1	1,100	150	190	264	253
16	2019	7	Dump Trailer	15,000	3,500	1,643	2,187	2,054
17	2019	5	Truck 1	35,000	3,000	6,400	5,040	6,400
18	2021	5	Truck 2	35,000	3,000	6,400	14,000	10,667
19	2020	5	Riding Lawnmover	4,500	500	800	1,080	1,067
20	2020	5	Push Lawnmower 2	500	100	80	120	107
21						15,988	23,166	21,081

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1. The lab presumes the depreciation expense for the year 2022. If we replace "2023" for "2022" in cell B1, we can compute the depreciation expense for the year 2023. Take a screenshot of the depreciation schedule for 2023 and label it "Lab 1-2 Submission 2.jpg"

	A	B	C	D	E	F	G	H
1	Current Year	2023						
2				Original				
3	Year Placed in Service	Useful Life	Description	Cost	Salvage Value	SLN	DDB	SYD
4	2019	5	Shovel	50	10	8	1	5
5	2021	5	Garden fork	50	10	8	12	11
6	2019	5	Rake	50	10	8	1	5
7	2019	5	Dutch hoe	50	10	8	1	5
8	2020	5	Garden fork	50	10	8	7	8
9	2018	7	Lawn Shears	20	5	2	0	2
10	2016	7	Pruners	80	10	10	1	3
11	2019	5	Trowel	20	5	3	-	2
12	2020	5	Chain Saw	650	50	120	94	120
13	2019	5	Power Trimmer	650	50	120	56	80
14	2017	10	Trailer for Equipment	2,000	200	180	131	164
15	2020	5	Push Lawnmower 1	1,100	150	190	158	190
16	2019	7	Dump Trailer	15,000	3,500	1,643	1,562	1,643
17	2019	5	Truck 1	35,000	3,000	6,400	3,024	4,267
18	2021	5	Truck 2	35,000	3,000	6,400	8,400	8,533
19	2020	5	Riding Lawnmover	4,500	500	800	648	800
20	2020	5	Push Lawnmower 2	500	100	80	72	80
21						15,988	14,168	15,917

Lab 1-2 Multiple Choice Questions

1. Which truck had higher straight-line depreciation expense than double-declining balance depreciation expense in 2022?
   - **a. Truck 1**
   - b. Truck 2
   - c. Dump Trailer
2. Which method calculated the most depreciation expense for the "Trailer for Equipment" in 2022?
   - **a. Sum-of-the-Year's Digits**
   - b. Double Declining Depreciation

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   c. Straight-Line Depreciation
3. Overall, for 2022, which depreciation method had the least depreciation expense?
   a. Straight-Line Depreciation
   b. Sum-of-the-Year's Digits
   c. Double Declining Depreciation
4. The lab presumes the depreciation expense for the year 2022. If we replace "2023" for "2022" in cell B1, we can compute the depreciation expense for the year 2023. What is the straight-line depreciation for 2023 assuming no assets are added or disposed during the year?
   a. 15,988
   b. 14,168
   c. 15,917
   d. 23,166
5. The lab presumes the depreciation expense for the year 2022. If we replace "2023" for "2022" in cell B1, we can compute the depreciation expense for the year 2023. What is the double declining balance depreciation for 2023 assuming no assets are added or disposed during the year?
   a. 14,168
   b. 15,988
   c. 15,917
   d. 23,166

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Lab 1-2 Alt Submission

1. Take a screenshot of the depreciation schedule for 2022 and label it "Lab 1-2 Alt Submission 1.jpg".

	A	B	C	D	E	F	G	H
1	Current Year	2022						
2				Original				
3	Year Placed in Service	Useful Life	Description	Cost	Salvage Value	SLN	DDB	SYD
4	2019	10	Conveyer Oven 1	18,000	2,500	1,550	2,304	2,255
5	2021	7	Reach-in Refrigerator	4,500	800	529	1,286	925
6	2019	7	Freezer	3,500	700	400	510	500
7	2019	5	Work table	200	50	30	22	30
8	2020	5	Pizza Prep Table	300	50	50	72	67
9	2018	7	Dough Mixer	500	100	57	52	57
10	2016	7	Dough Prep Equipmen	400	20	54	21	27
11	2019	5	Hot Holding Cabinet 1	150	50	20	4	20
12	2020	5	Hot Holding Cabinet 2	200	50	30	48	40
13	2019	5	Delivery Bags	200	-	40	29	40
14	2017	10	Conveyer Oven 2	15,000	2,000	1,300	1,229	1,418
15	2019	5	Pizza Prep Table	350	150	40	-	40
16	2019	5	Assorted utensils	300	-	60	43	60
17						4,160	5,620	5,479

2. The lab presumes the depreciation expense for the year 2022. If we replace "2023" for "2022" in cell B1, we can compute the depreciation expense for the year 2023. Take a screenshot of the depreciation schedule for 2023 and label it "Lab 1-2 Alt Submission 2.jpg".

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	A	B	C	D	E	F	G	H
1	Current Year	2023						
2				Original				
3	Year Placed in Service	Useful Life	Description	Cost	Salvage Value	SLN	DDB	SYD
4	2019	10	Conveyer Oven 1	18,000	2,500	1,550	1,843	1,973
5	2021	7	Reach-in Refrigerator	4,500	800	529	918	793
6	2019	7	Freezer	3,500	700	400	364	400
7	2019	5	Work table	200	50	30	-	20
8	2020	5	Pizza Prep Table	300	50	50	43	50
9	2018	7	Dough Mixer	500	100	57	30	43
10	2016	7	Dough Prep Equipmen	400	20	54	15	14
11	2019	5	Hot Holding Cabinet 1	150	50	20	-	13
12	2020	5	Hot Holding Cabinet 2	200	50	30	22	30
13	2019	5	Delivery Bags	200	-	40	17	27
14	2017	10	Conveyer Oven 2	15,000	2,000	1,300	983	1,182
15	2019	5	Pizza Prep Table	350	150	40	-	27
16	2019	5	Assorted utensils	300	-	60	26	40
17						4,160	4,263	4,610

Lab 1-2 Alt Multiple Choice Questions

1. What is the 2022 double-declining balance depreciation expense for conveyer oven 1?
   - **a. $2,304**
   - b. $1,550
   - c. $2,255
   - d. $1,843
2. What is the total depreciation expense using sum-of-the-years' digits for 2022?
   - **a. $5,479**
   - b. $5,620
   - c. $4,160
   - d. $4,610
3. Which asset has $1,300 straight line depreciation expense in 2022?
   - **a. Conveyer Oven 2**
   - b. Freezer
   - c. Reach-In Refrigerator
   - d. Conveyer Oven 1
4. Which asset has $43 sum-of-the-year's digit's depreciation in 2023?
   - **a. Dough mixer**
   - b. Delivery bags
   - c. Work table
   - d. Dough prep equipment

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5. Which assets have zero double declining balance depreciation in 2023?
   a. **Work table, hot holding cabinet 1 and pizza prep table**
   b. Work table, hot holding cabinet 2 and assorted utensils
   c. Dough mixer, hot holding cabinet 2 and assorted utensils
   d. Dough mixer, hot holding cabinet 1 and pizza prep table

Lab 1-3 Solution

Lab 1-3 Submission

1. Take a screenshot of the top 20 lines of your 360-month amortization schedule and label it "Lab 1-3 Submission.jpg".

	A	B	C	D	E	F
1	Annual Interest Rate	6%				
2	Monthly Interest Rate (rate)	0.005		Total		Principal and
3	Number of periods (nper)	360		Interest Paid		Interest Paid
4	Amount of Loan (pv)	200,000		231,676.38		431,676.38
5	Monthly Payment	($1,199.10)				
6		Beginning	Monthly	Towards	Towards	Ending
7	Monthly payment number	Principal	Payment	Interest	Principal	Principal
8	1	200,000	($1,199.10)	1,000.00	($199.10)	199,800.90
9	2	199,800.90	($1,199.10)	999.00	($200.10)	199,600.80
10	3	199,600.80	($1,199.10)	998.00	($201.10)	199,399.71
11	4	199,399.71	($1,199.10)	997.00	($202.10)	199,197.60
12	5	199,197.60	($1,199.10)	995.99	($203.11)	198,994.49
13	6	198,994.49	($1,199.10)	994.97	($204.13)	198,790.36
14	7	198,790.36	($1,199.10)	993.95	($205.15)	198,585.21
15	8	198,585.21	($1,199.10)	992.93	($206.17)	198,379.04
16	9	198,379.04	($1,199.10)	991.90	($207.21)	198,171.83
17	10	198,171.83	($1,199.10)	990.86	($208.24)	197,963.59
18	11	197,963.59	($1,199.10)	989.82	($209.28)	197,754.31
19	12	197,754.31	($1,199.10)	988.77	($210.33)	197,543.98
20	13	197,543.98	($1,199.10)	987.72	($211.38)	197,332.60
21	14	197,332.60	($1,199.10)	986.66	($212.44)	197,120.16
22	15	197,120.16	($1,199.10)	985.60	($213.50)	196,906.66
23	16	196,906.66	($1,199.10)	984.53	($214.57)	196,692.09
24	17	196,692.09	($1,199.10)	983.46	($215.64)	196,476.45
25	18	196,476.45	($1,199.10)	982.38	($216.72)	196,259.73
26	19	196,259.73	($1,199.10)	981.30	($217.80)	196,041.93
27	20	196,041.93	($1,199.10)	980.21	($218.89)	195,823.04

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Lab 1-3 Multiple Choice Questions

1. What is the amount of interest paid in monthly payment number 25?
    a. **$974.68**
    b. $975.80
    c. $972.43
    d. $973.56
2. What is the amount that goes toward paying down principal in monthly payment number 20?
    a. **$218.89**
    b. $217.80
    c. $219.99
    d. $980.21
3. What is the amount of ending principal after the 359th monthly payment?
    a. **$1,193.14**
    b. $0
    c. $5.97
    d. $2,380.33
4. What is the amount of ending principal after the 360th monthly payment?
    a. **$0**
    b. $1,193.14
    c. $5.97
    d. $2,380.33
5. What would be the monthly payment for a $200,000 mortgage loan for 360 months, and at 7% annual interest?
    a. **$1,330.60**
    b. $1,199.10
    c. $14,000.00
    d. $1,064.48

Alt Lab 1-3 Submission

1. Take a screenshot of the top 20 lines of your 180-month amortization schedule and label it “Lab 1-3 Alt Submission 1.jpg”.

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	A	B	C	D	E	F
1	Annual Interest Rate	6%				
2	Monthly Interest Rate (rate)	0.005		Total		Principal and
3	Number of periods (nper)	180		Interest Paid		Interest Paid
4	Amount of Loan (pv)	200,000		103,788.46		303,788.46
5	Monthly Payment	($1,687.71)				
6		Beginning	Monthly	Towards	Towards	Ending
7	Monthly payment number	Principal	Payment	Interest	Principal	Principal
8	1	200,000	($1,687.71)	1,000.00	($687.71)	199,312.29
9	2	199,312.29	($1,687.71)	996.56	($691.15)	198,621.13
10	3	198,621.13	($1,687.71)	993.11	($694.61)	197,926.53
11	4	197,926.53	($1,687.71)	989.63	($698.08)	197,228.45
12	5	197,228.45	($1,687.71)	986.14	($701.57)	196,526.87
13	6	196,526.87	($1,687.71)	982.63	($705.08)	195,821.79
14	7	195,821.79	($1,687.71)	979.11	($708.60)	195,113.19
15	8	195,113.19	($1,687.71)	975.57	($712.15)	194,401.04
16	9	194,401.04	($1,687.71)	972.01	($715.71)	193,685.33
17	10	193,685.33	($1,687.71)	968.43	($719.29)	192,966.05
18	11	192,966.05	($1,687.71)	964.83	($722.88)	192,243.16
19	12	192,243.16	($1,687.71)	961.22	($726.50)	191,516.67
20	13	191,516.67	($1,687.71)	957.58	($730.13)	190,786.53
21	14	190,786.53	($1,687.71)	953.93	($733.78)	190,052.75
22	15	190,052.75	($1,687.71)	950.26	($737.45)	189,315.30
23	16	189,315.30	($1,687.71)	946.58	($741.14)	188,574.17
24	17	188,574.17	($1,687.71)	942.87	($744.84)	187,829.32
25	18	187,829.32	($1,687.71)	939.15	($748.57)	187,080.76
26	19	187,080.76	($1,687.71)	935.40	($752.31)	186,328.45
27	20	186,328.45	($1,687.71)	931.64	($756.07)	185,572.38

2. Take a screenshot of the top 20 lines of your 96-month amortization schedule and label it “Lab 1-3 Alt Submission 2.jpg”.

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	A	B	C	D	E	F
1	Annual Interest Rate	6%				
2	Monthly Interest Rate (rate)	0.005		Total		Principal and
3	Number of periods (nper)	72		Interest Paid		Interest Paid
4	Amount of Loan (pv)	200,000		38,649.59		238,649.59
5	Monthly Payment	($3,314.58)				
6		Beginning	Monthly	Towards	Towards	Ending
7	Monthly payment number	Principal	Payment	Interest	Principal	Principal
8	1	200,000	($3,314.58)	1,000.00	($2,314.58)	197,685.42
9	2	197,685.42	($3,314.58)	988.43	($2,326.15)	195,359.27
10	3	195,359.27	($3,314.58)	976.80	($2,337.78)	193,021.49
11	4	193,021.49	($3,314.58)	965.11	($2,349.47)	190,672.02
12	5	190,672.02	($3,314.58)	953.36	($2,361.22)	188,310.80
13	6	188,310.80	($3,314.58)	941.55	($2,373.02)	185,937.78
14	7	185,937.78	($3,314.58)	929.69	($2,384.89)	183,552.89
15	8	183,552.89	($3,314.58)	917.76	($2,396.81)	181,156.08
16	9	181,156.08	($3,314.58)	905.78	($2,408.80)	178,747.28
17	10	178,747.28	($3,314.58)	893.74	($2,420.84)	176,326.44
18	11	176,326.44	($3,314.58)	881.63	($2,432.95)	173,893.49
19	12	173,893.49	($3,314.58)	869.47	($2,445.11)	171,448.38
20	13	171,448.38	($3,314.58)	857.24	($2,457.34)	168,991.05
21	14	168,991.05	($3,314.58)	844.96	($2,469.62)	166,521.43
22	15	166,521.43	($3,314.58)	832.61	($2,481.97)	164,039.46
23	16	164,039.46	($3,314.58)	820.20	($2,494.38)	161,545.08
24	17	161,545.08	($3,314.58)	807.73	($2,506.85)	159,038.22
25	18	159,038.22	($3,314.58)	795.19	($2,519.39)	156,518.84
26	19	156,518.84	($3,314.58)	782.59	($2,531.98)	153,986.85
27	20	153,986.85	($3,314.58)	769.93	($2,544.64)	151,442.21

Lab 1-3 Alt Multiple Choice Questions

1. What would be the monthly payment for 180 months, 6% annual interest and a $200,000 loan?
   - **a. $1,687.71**
   - b. $3,314.58
   - c. $1,199.10
   - d. $1,064.48
2. What would be the monthly payment for 72 months, 6% annual interest and a $200,000 loan?
   - **a. $3,314.58**
   - b. $1,687.71
   - c. $1,199.10
   - d. $1,064.48

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3. For the 180-month mortgage, what is the amount that goes toward paying down principal in monthly payment number 20?
    a. $756.07
    b. $759.04
    c. $931.64
    d. $752.31
4. For the 72-month mortgage, what is the amount of interest expense in monthly payment number 3?
    a. $976.80
    b. $2,337.78
    c. $965.11
    d. $993.11
5. What is the total amount of interest paid over the life of the 180-month mortgage?
    a. $103,788.46
    b. $38,649.59
    c. $238,649.59
    d. $303,788.46

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