Name: _____ Class: _____ Date: _____ ID: R

REVIEW for Financial Algebra Final Exam - Spring 2014 - Units 1, 5, 7, 9, 10

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1 (1 point) On July 3, the ABC corporation closed at $43.67. This was a $0.47 increase from the close the day before. What percent change is this?

  A +98.91%   **C** +1.09%

  B −1.09%   **D** −1.07%

Short Answer
Show your work and circle your final answer. For 3-point questions, 2 points are for a correct equation and/or process and 1 point is for the correct answer.

2 (1 point) Renee made a spreadsheet to calculate the 5-day SMA for the stocks in her portfolio.

	A	B	C
1	Day	Closing Price	5-Day Moving Average
2	1	30.85	
3	2	31.15	
4	3	29.04	
5	4	31.10	
6	5	32.62	
7	6	31.85	
8	7	31.76	
9	8	32.24	

What formula should Renee put into C7?

3 (1 point) What does the ticker P&G 3M@ 77.85 ▲ 0.13 mean?

4 (1 point) McKenzie buys 250 shares of stock for $12 a share and pays a 2% commission. She sells the stock 3 years later for $18 a share and pays a 1% commission. What are her net proceeds?

5 (1 point) Quinton bought x number of shares for p dollars and paid a 1% commission. He sold the stock for y dollars and paid a flat fee of $7. Express Quinton's net proceeds algebraically.

6 (1 point) This information was posted at the end of the trading day on June 12.

52-week High	52-week Low	Stock	Last	Change	Sales of 100s	High	Low
64.89	50.34	ABC Inc	58.19	−2.03	23.9	60.18	54.42
212.65	189.40	XYZ Corp	207.21	−17.54	1.6	210.16	197.34
145.90	113.38	CAT Ltd	144.68	+8.92	38.2	132.75	127.89

What was the closing price of CAT Ltd on June 11?

7 (1 point) A certain corporation listed their sales in 100s as 1700. What was their actual volume in thousands?

8 (1 point) The information released on a particular corporation at closing shows a Chg of –2.35. What does this mean?

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9 (1 point) Gretchen has 50/100/50 liability insurance with a $500 deductible. While parked on the street, another car hits hers and then leaves the scene. There was $2,350 worth of damage. How much of the cost will her insurance pay?

10 (1 point) Monte recorded the gas mileage, in miles per hour, of ten different cars he is considering buying: 34, 27, 30, 24, 28, 31, 42, 30, 29, and 19. Put the data in a stem-and-leaf plot.

11 (1 point) A car that Sophia wants to buy costs $21,000. She does research and finds that after 14 years the car depreciates to a value of zero. If the car depreciates in straight line form, write the straight line depreciation equation.

12 (1 point) The Jacksons are taking a trip to Florida. Mr. Jackson knows that it is about 945 miles to their destination in Florida from their home in Ohio. He knows the average speed along his route will be 70 miles per hour. How long is the drive?

13 (1 point) Aaron just bought a used car from his cousin for $3,500. When he changes the title and gets license plates, he is required to pay sales tax on the purchase price of the car. If the sales tax rate is $6\frac{1}{4}$%, how much sales tax does he pay?

14 (1 point) Nina's car exponentially depreciates at a rate of 7% per year. If Nina bought the car when it was 6-years old for $12,000, what was the original price of the car?

15 (1 point) At the beginning of the week, Miguel's odometer reads 87,845. At the end of the week, his odometer reads 88,033. How many miles did Miguel travel that week?

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16 (1 point) Maria works for an online auto trader. She makes a piecewise function to show the cost to place an online advertisement.

$$c(x) \begin{cases} 39 & \text{when } x \le 6 \\ 39 + 5(x - 6) & \text{when } x > 6 \end{cases}$$

What is the cusp of the function?

17 (1 point) Don buys a car valued at $25,000. When the car was new, it sold for $32,000. If the car depreciates exponentially at a rate of 7% per year, about how old is the car?

18 (1 point) Lisa is a single taxpayer whose total income before deductions is $57,392. She was able to reduce her total income by $9,347 by filing Schedule A. Use the tax rate schedule below. How much did she save using Schedule A?

Schedule X—   If your filing status is Single

If your taxable income is: Over—	But not over—	The tax is:	of the amount over—
$0	$8,025	--------- 10%	$0
8,025	32,550	$802.50 + 15%	8,025
32,550	78,850	4,481.25 + 25%	32,550
78,850	164,550	16,056.25 + 28%	78,850
164,550	357,700	40,052.25 + 33%	164,550
357,700	--------	103,791.75 + 35%	357,700

19 (1 point) What is the difference between a tax credit and a tax deduction?

21 (1 point) What is the term for a Wage and Tax statement and what is its purpose?

20 (1 point) Chris' taxable income is $60,709. She is married, filing jointly. What is her tax?

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a house-hold
		Your tax is —			
60,000					
60,000	60,050	11,350	8,201	11,350	10,069
60,050	60,100	11,363	8,209	11,363	10,081
60,100	60,150	11,375	8,216	11,375	10,094
60,150	60,200	11,388	8,224	11,388	10,106
60,200	60,250	11,400	8,231	11,400	10,119
60,250	60,300	11,413	8,239	11,413	10,131
60,300	60,350	11,425	8,246	11,425	10,144
60,350	60,400	11,438	8,254	11,438	10,156
60,400	60,450	11,450	8,261	11,450	10,169
60,450	60,500	11,463	8,269	11,463	10,181
60,500	60,550	11,475	8,276	11,475	10,194
60,550	60,600	11,488	8,284	11,488	10,206
60,600	60,650	11,500	8,291	11,500	10,219
60,650	60,700	11,513	8,299	11,513	10,231
60,700	60,750	11,525	8,306	11,525	10,244
60,750	60,800	11,538	8,314	11,538	10,256
60,800	60,850	11,550	8,321	11,550	10,269
60,850	60,900	11,563	8,329	11,563	10,281
60,900	60,950	11,575	8,336	11,575	10,294
60,950	61,000	11,588	8,344	11,588	10,306

22 (1 point) Kathy and Jeff Miller have a combined income of $93,366. They have 1099 forms which report $1,200 in interest. They also have $4,922 income from rental property. They are able to reduce their income by $3,500. What is their adjusted gross income?

23 (1 point) Abraham is a single taxpayer with no dependents. He received $297 in bank interest and $1,500 for a educational expenses deduction. His charitable contributions were $2,000.

Use the information to complete the table below: Wages, tips, and other compensation: $47,513; Social Security Wages: $47,513; Medicare wages: $47,513; Federal tax withheld: $4,325; State tax withheld: $2,790. Assume $3,500 per exemption and use the tax rate for the income interval for $32,550 to $78,850 of $4,481.25 + 25% for taxable income over $32,550.

Total itemized deductions	$
Interest	$
Adjusted gross income	$
Taxable income	$
Tax due	$
Tax owed	$

24 (1 point) Nancy does her taxes herself. She filled out this portion of Schedule A below to deduct her mortgage interest of $7,310, her real estate taxes of $3,988, and her state income taxes of $4,080. What error did Nancy make?

Taxes You Paid (See page A-2.)	5	State and local (check only one box): a ☒ Income taxes, or b ☐ General sales taxes	5	$4,080	00			
	6	Real estate taxes (see page A-5)	6	$3,988	00			
	7	Personal property taxes	7					
	8	Other taxes. List type and amount ▶ _____	8					
	9	Add lines 5 through 8				9	$8,068	00
Interest You Paid (See page A-5.)	10	Home mortgage interest and points reported to you on Form 1098	10	$7,310	00			
	11	Home mortgage interest not reported to you on Form 1098. If paid to the person from whom you bought the home, see page A-6 and show that person's name, identifying no., and address ▶	11					
Note. Personal interest is not deductible.	12	Points not reported to you on Form 1098. See page A-6 for special rules	12					
	13	Qualified mortgage insurance premiums (see page A-6)	13					
	14	Investment interest. Attach Form 4952 if required. (See page A-6.)	14					
	15	Add lines 10 through 14				15	$15,378	00

25 (1 point) Maria and Juan are married, filing jointly. Their taxable income is $154,849. Use the table below to write an equation to determine their tax. Then calculate their tax.

Schedule Y-1—   If your filing status is Married filing jointly or Qualifying widow(er)

If your taxable income is:		The tax is:	of the amount over—
Over—	But not over—		
$0	$16,050	-------- 10%	$0
16,050	65,100	$1,605.00 + 15%	16,050
65,100	131,450	8,962.50 + 25%	65,100
131,450	200,300	25,550.00 + 28%	131,450
200,300	357,700	44,828.00 + 33%	200,300
357,700	--------	96,770.00 + 35%	357,700

26 (1 point) What word is synonymous for take-home pay?

27 (1 point) A single mother who files head of household pays a tax of $10,881. Use the table to find her taxable income interval.

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a house-hold
		Your tax is —			
63,000					
63,000	63,050	12,100	8,651	12,100	10,819
63,050	63,100	12,113	8,659	12,113	10,831
63,100	63,150	12,125	8,666	12,125	10,844
63,150	63,200	12,138	8,674	12,138	10,856
63,200	63,250	12,150	8,681	12,150	10,869
63,250	63,300	12,163	8,689	12,163	10,881
63,300	63,350	12,175	8,696	12,175	10,894
63,350	63,400	12,188	8,704	12,188	10,906
63,400	63,450	12,200	8,711	12,200	10,919
63,450	63,500	12,213	8,719	12,213	10,931
63,500	63,550	12,225	8,726	12,225	10,944
63,550	63,600	12,238	8,734	12,238	10,956
63,600	63,650	12,250	8,741	12,250	10,969
63,650	63,700	12,263	8,749	12,263	10,981
63,700	63,750	12,275	8,756	12,275	10,994
63,750	63,800	12,288	8,764	12,288	11,006
63,800	63,850	12,300	8,771	12,300	11,019
63,850	63,900	12,313	8,779	12,313	11,031
63,900	63,950	12,325	8,786	12,325	11,044
63,950	64,000	12,338	8,794	12,338	11,056

28 (1 point) An insurance company uses the mortality table below to calculate their risk when writing life insurance policies.

Age at Death (males)	50	51	53	54
Mortality Rate	0.0043	0.0049	0.0052	0.0055

If this company insures 12,000 54-year old men, how many are expected to die before they reach their 55th birthday?

29 (1 point) What is the full retirement age, the age at which a person receives full Social Security benefits, of a person born after 1962?

30 (1 point) Where does the money come from to pay Social Security benefits today to those who are receiving them? Why is this a concern for the 'baby boomer' generation?

31 (1 point) Nina's employer offers a pension plan that is the product of the career average of her salaries while working there, the number of years of service, and a 1.75% multiplier. She calculates the average of her 17 years of salaries to be $54,000 . What is her monthly pension?

32 (1 point) What is the difference between an IRA and a 401k?

33 (1 point) Mr. Casem is preparing to retire after 31 years with his company. He set up this spreadsheet to calculate his pension which is based on his most recent three year average salary, number of years of service, and a 2% multiplier.

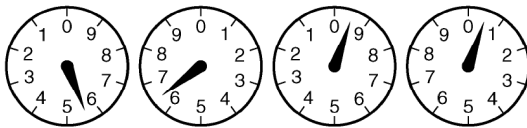|	A	B	C	D
1	Year	Salary	Three year Average Salary	**a.**
2	1999	49,500	Percentage Multiplier	2.0
3	2000	52,000	Years of Service	31
4	2001	53,000	Annual Pension Benefit	**b.**

What are the formulas for cells D1 and D4? What are the resulting values?

34 (1 point) Last year Mrs. Washington had a taxable income of $48,000 and paid about 20% in taxes. This year she contributed $3,000 to a traditional IRA. About how much could her tax liability be reduced?

36 (1 point) Mr. Jenkins is almost 67 years old and is preparing to retire. Over his life he earned an average of $3,750 per month after adjusting for inflation. The formula for calculating monthly Social Security benefits is 90% of the first $680 earned, then 32% of the earnings over $680. What will Mr. Jenkins' monthly benefit be?

35 (1 point) Marianne opened a retirement account that has an annual yield of 5.5%. She is planning to retire in 25 years. How much should she put into the account each month so that she will have $500,000 when she retires?

37 (1 point) Manuel works for the water company as a meter reader. The meter below is the Jansen's water meter. What is the reading, in ccf, on the meter shown?

38 (1 point) Xavier's monthly assets and liabilities are in the table below. What is Xavier's debt-to-income ratio?

Monthly Liabilities		Monthly Assets	
Rent	$750	Gross Salary Full-time job	$2,500
Student Loan	$100	Gross Salary Part-time job	$600
Credit Card	$125		
Car loan	$210		

39 (1 point) Katelyn is shopping for a cellular phone service. Trenton Bell charges a monthly fee of $40 for up to 500 minutes. For every minute over 500, there is an $0.18 charge. Write a piecewise function to represent the cost of this plan.

40   (1 point) Construct a bar graph using the information below on transportation-related costs.

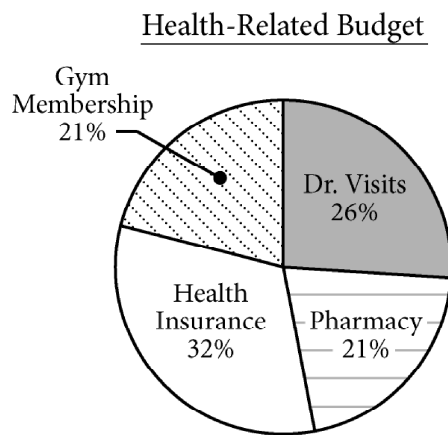| Transportation Costs	Jan	Feb	Mar	Apr	May	June
Car Payment	210	210	210	210	210	210
Insurance	45	45	45	45	45	45
Gasoline	110	115	120	110	90	100
Parking	30	30	30	30	30	30
Repairs and Maintenance	0	0	35	175	0	35

41 (1 point) Richard and Samantha are charting their monthly cash flow. They have some expenses like car repairs and vacations that are not paid each month. How can they account for these non-monthly expenses?

43 (1 point) The Lisbon's new heat pump cost $4,500. They bought it to replace their old furnace and air conditioner which cost about $2,800 a year to run. The heat pump will save them approximately 39% a year. In how many years will the heat pump pay for itself? Round to the nearest tenth.

42 (1 point) Last year, Maria spent $2,388 for natural gas. This year, she decided to use balance billing. What will her monthly payment be this year?

44 (1 point) Use the pie chart of health-related and personal care items. If the Lee family has $800 per month budgeted for heath-related items, how much do they have budgeted for each of the four categories below?

Health-Related Budget

Gym
Membership
21%

Dr. Visits
26%

Health
Insurance
32%

Pharmacy
21%

45 (1 point) A certain refrigerator requires 170 watts of electricity when it is running. It typically runs about 20 minutes per hour. How much does it cost to run this refrigerator for one year if the cost per kWh is $0.11?

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46 (1 point) Roderick has an Internet service that charges by the hour. This piecewise function shows the cost of the Internet service based on the number of hours that Roderick uses the Internet.

$$c(x) \begin{cases} 10 & \text{when } x \le 4 \\ 10 + 2.50(x - 4) & \text{when } x > 4 \end{cases}$$

Last month, Roderick used the Internet for 7.5 hours. What was he charged?

47 (1 point) Michelle's last electric bill listed a previous reading of 17,934 kWh. This month, the electric meter reading is 18,796 kWh. If the electric company charges $0.09 per kWh, what is the charge for usage?