

FINANCIAL MATH & ANALYSIS (12)

REGIONAL 2011

CONTESTANT ID# _____ START TIME _____ END TIME _____



Financial Services Events Sponsored by the American Institute of Certified Public Accounts

TOTAL POINTS _____ (500)

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.***

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GENERAL INSTRUCTIONS

The number of decimal places used in calculations and in the reporting of your answers is very important. Below are guidelines to use as you take this test. If a problem varies from these guidelines, it will be noted in the problem.

PAYROLL QUESTIONS

- Do not round the overtime rate.
- Overtime is paid for any hours over 40 worked in a week, *unless otherwise stated in the problem.*
- Normal work week is 40 hours, *unless otherwise stated in the problem.*

PERCENTAGE PROBLEMS

- Round to the nearest tenth when working with percentages.
 - **Example:** Use 2.3% NOT 2%
 - **Example:** An answer of .9638 should be written as 96.4%

FRACTIONS

- All problems with fractions are to be reduced to their lowest terms.

INTEREST

- All interest rates are stated in one-year simple interest, *unless otherwise noted.*

DOLLAR AMOUNTS

- All dollar amounts must be rounded to the second place (nearest cent).
- **Example:** \$35.9765 to \$35.98

Please use test booklet as scrap paper

1. Sophia Hill earns \$9.75 an hour as a hair stylist. Last week she worked 18 hours. This week she worked 24 hours. What is her straight-time pay for the two weeks?
 - A. \$444.50
 - B. \$309.50
 - C. \$409.50
 - D. \$399.50

2. At Green's Deli employees earn double time for any hours worked in addition to their usual 40-hour week. Ester Klein worked 43 hours this week. Klein's regular hourly rate is \$9.00 an hour. What is her total pay this week?
 - A. \$414.00
 - B. \$387.00
 - C. \$360.00
 - D. \$774.00

3. Cindy Hayden worked at Keller Medical Institute for 9 ½ hours on Monday and from 6:15 am until 12:45 pm on Tuesday. What are her total hours?
 - A. 16 hours
 - B. 25 hours
 - C. 19 hours
 - D. 17 hours

4. George Saylor provides childcare in his home. He charges \$5 per hour per child. On Tuesday he cared for Amy for 3 hours, Itsu for 4 hours, Kaylee for 6 hours, and Jasmine for 4 hours. What was his total pay?
 - A. \$65.00
 - B. \$85.00
 - C. \$45.00
 - D. \$95.00

5. Robin Cline is a computer analyst. Her annual salary is \$52,789. What is her monthly salary?
 - A. \$3,444.22
 - B. \$4,399.08
 - C. \$4,100.00
 - D. \$4,700.87

6. Gerald Randolph earns a 3 percent commission on all sales. He also receives a \$1,100 bonus if his commission exceeds \$4,000. His total sales were \$85,500. What was his total pay?
 - A. \$4,865
 - B. \$3,450
 - C. \$2,565
 - D. \$3,665

7. Clarence Lewis sells commercial real estate. He earns 2 percent commission on the first \$25,000, 4 percent on the next \$25,000, and 8 percent on sales over \$50,000. Last month he sold \$118,000 in commercial real estate. What was his total commission?
- A. \$6,700
 - B. \$6,940
 - C. \$6,860
 - D. \$5,860
8. Derek Schwartz's annual salary is \$47,300. He is paid monthly. His personal exemptions total \$2,000. How much does his employer deduct from each of Schwartz's paychecks for state income tax of 3 percent?
- A. \$115.00
 - B. \$113.25
 - C. \$1,359.00
 - D. \$118.25
9. Rayna Prater's gross biweekly pay is \$2,420. Her earnings to date for the year total \$58,080. What amount is deducted from her pay for Social Security, which is taxed at 6.2 percent? For Medicare, which is taxed at 1.45 percent?
- A. \$150.04, \$35.09
 - B. \$145.20, \$56.78
 - C. \$0.00, \$45.24
 - D. \$148.35, \$165.00
10. Jason Cooper's gross weekly pay is \$598. His earnings to date for the year total \$14,950. What total amount is deducted from his pay this week for Social Security, which is taxed at 6.2 percent, and Medicare, at 1.45 percent?
- A. \$39.68
 - B. \$45.74
 - C. \$40.09
 - D. \$45.75
11. Nellie Raysan's monthly budget allows her to spend \$150 for entertainment. In February she spent \$27. How much more or less did she spend than budgeted?
- A. \$123 more
 - B. \$123 less
 - C. \$135 more
 - D. \$135 less
12. Betty Glacier is a manufacturer's representative for a plastics company. She travels all over the country selling her company's products. Her total monthly expenses for August, September, and October were \$2,756.11, \$7,111.20, and \$5,080.70. What was her average monthly expenditure?
- A. \$4,567.76
 - B. \$3,898.01
 - C. \$4,982.67
 - D. \$3,983.45

13. Tony Michael budgeted \$4,550 to buy a used car for his son, Trey. He spent \$6,788. How much more or less is the amount spent than the amount budgeted?
- A. \$2,238 less
 - B. \$2,338 more
 - C. \$2,238 more
 - D. \$2,338 less
14. Luisa Perez had a balance of \$541.82 in her checking account on January 7. On January 10 she wrote a check to Marty's Hair Salon for \$27.19. What is her new balance?
- A. \$494.63
 - B. \$569.01
 - C. \$514.63
 - D. \$27.19
15. Lourdes Ramirez deposits the following in her checking account: 3 ten-dollar bills, 6 five-dollar bills, 9 one-dollar bills, 9 quarters, 11 dimes, 2 nickels, 47 pennies, and a check for \$19.76. What is her total deposit?
- A. \$72.68
 - B. \$92.21
 - C. \$92.68
 - D. \$72.92
16. Latrina Ramin's checking account had a balance of \$148.52. One day she writes checks for \$46.75 to purchase a blanket, \$6.25 for a book, and \$95.00 for a bedspread. What is the new balance in Ramin's account?
- A. \$0.52
 - B. \$52.00
 - C. \$249.77
 - D. \$95.52
17. Paulo Suarez's checking account balance is \$212.02. He owes his friend Charlie Moore \$37.00. He owes his mother \$35.00 and his father \$15.00. If Suarez writes checks to all three people, what is the new balance?
- A. \$140.02
 - B. \$37.00
 - C. \$125.02
 - D. \$120.02
18. Shawnte Sholes purchased two light fixtures from Central Lighting for \$31.83 each. What was the amount of his check, expressed in words?
- A. Sixty-four and 66/100 dollars
 - B. Seventy-three and 66/100 dollars
 - C. Seventy-six and 66/100 dollars
 - D. Sixty-three and 66/100 dollars

19. Susan Pinsky's checking account had a balance of \$137.66. She wrote a check for \$23.62 on September 3. On September 7 the bank made an automatic transfer (AT) or \$25.41 to pay her phone bill. She made a deposit of \$146.24 on September 12. What is the new balance in Pinsky's account?
- A. \$40.45
 - B. \$258.49
 - C. \$234.87
 - D. \$332.93
20. Christopher Rinaldi receives his bank statement for the month. His balance is \$1,770.99. In comparing his check register, canceled checks, and bank statement, he finds that two checks are outstanding. The amounts are \$72.50 and \$126.00. What is Rinaldi's adjusted balance?
- A. \$1,698.49
 - B. \$1,672.45
 - C. \$1,770.99
 - D. \$1,572.49
21. Clarence Watson wants to deposit four checks for \$73.42, \$197.01, \$263.85, and \$13.13 into his savings account. What is his total deposit?
- A. \$547.41
 - B. \$567.98
 - C. \$548.65
 - D. \$543.23
22. Natasha Evans deposited \$1,100 in a savings account that earns 5 percent interest compounded quarterly. The amount in her account at the end of the second quarter was \$1,127.67. How much compound interest had she earned?
- A. \$27.67
 - B. \$13.68
 - C. \$13.67
 - D. \$127.67
23. Wally Louis deposits the money from a donation box in his club's savings account. He has checks amounting to \$753. He also has 15 twenty-dollar bills, 12 ten dollar bills, 45 five-dollar bills, 187 one-dollar bills, and \$42 in coins. What is the total deposit?
- A. \$1,627
 - B. \$1,267
 - C. \$1,762
 - D. \$1,585
24. Mike Meier purchased a lawnmower for \$328.61, a lawn sprinkler for \$13.27, and a hose reel for \$27.96. He must pay the state tax of 5.5 percent, the county tax of 1.5 percent, and the city tax of 2 percent. What is the total purchase price?
- A. \$33.29
 - B. \$369.84
 - C. \$403.13
 - D. \$37.24

25. An eight-ounce tube of toothpaste costs \$1.69. What is the unit price per ounce to the nearest tenth of a cent?
- A. \$0.221 per ounce
 - B. \$0.091 per ounce
 - C. \$0.182 per ounce
 - D. \$0.211 per ounce
26. Sam Collins wants to buy the best deal in cereal he can find. He finds rice puffs for \$2.49 for 24 ounces, \$2.69 for 36 ounces, \$2.29 for 12 ounces, and \$4.00 for 48 ounces. What is the unit price of the best buy?
- A. 19.08 cents per ounce
 - B. 8.33 cents per ounce
 - C. 10.38 cents per ounce
 - D. 7.47 cents per ounce
27. Jeff Lytle can buy mulch for \$2.39 a bag at the gas station. He can get six bags of the same mulch at the garden store for \$15.00, or nine bags for \$19.00. Which is the best buy?
- A. One bag for \$2.39
 - B. Six bags for \$15.00
 - C. Nine bags for \$19.00
 - D. All are the same price.
28. Cate's Bake Shop has a clearance on day-old baked goods. Loaves of bread that usually sell for \$2.35 are on sale for \$1.39. What is the markdown?
- A. \$0.98
 - B. \$0.96
 - C. \$0.88
 - D. \$0.89
29. At Pablo's Pizza the regular price for 2 large, one-topping pizzas is \$12.98 each. Pablo's offers a markdown rate of 32 percent on Tuesdays. What is the sale price for 2 large, one-topping pizzas?
- A. \$17.45
 - B. \$18.99
 - C. \$17.65
 - D. \$13.89
30. Morissa Palmer's charge account statement showed a previous balance of \$142.55, a finance charge of \$2.82, new purchases of \$86.50, and a payment of \$80.00. What is her new balance?
- A. \$151.87
 - B. \$147.52
 - C. \$123.54
 - D. \$187.55

31. Manny Meister's charge account statement showed a previous balance of \$550, a finance charge of \$3, new purchases of \$600, and a payment of \$250. What is the new balance?
- A. \$900
 - B. \$903
 - C. \$905
 - D. \$890
32. Kelly Sullivan's charge account statement showed a previous balance of \$12,345.55, a finance charge of \$22.72, new purchases of \$12.50, and a payment of \$8,010.00. What is her new balance?
- A. \$3,470.77
 - B. \$4,370.77
 - C. \$4,560.99
 - D. \$4,011.11
33. Arturo Alvarez's charge account statement shows an unpaid balance of \$6,255. The monthly finance charge is 1.5 percent of the unpaid balance. What is the total finance charge?
- A. \$6,849.23
 - B. \$93.83
 - C. \$6,348.83
 - D. \$62.55
34. Scott Peter's bank granted him a single-payment loan of \$3,250 to pay a repair bill. He agreed to repay the loan in 31 days at an exact interest rate of 11.75 percent. What is the maturity value of the loan?
- A. \$3,282.43
 - B. \$3,554.66
 - C. \$3,300.90
 - D. \$3,211.09
35. Franklin Porter purchased a waterbed for \$4,500. He made a 20 percent down payment and financed the remainder. What amount did he finance?
- A. \$3,450
 - B. \$3,500
 - C. \$3,800
 - D. \$3,600
36. Felicia Barker took out a simple interest loan at 12 percent interest for 6 months. Her previous balance is \$2,460. What is the final payment if the loan is paid off with the next payment?
- A. \$12.00
 - B. \$2,484.60
 - C. \$2,472.30
 - D. \$3,050.40

37. Adelle Garcia obtained a loan of \$8,000 at 12 percent for 24 months. The monthly payment is \$376.80. After 15 payments the balance of the loan is \$3,222.44. What is the interest for the sixteenth payment?
- A. \$32.22
 - B. \$43.99
 - C. \$12.00
 - D. \$58.01
38. Brad Alexander sees a van advertised in the Sunday newspaper. The base price is \$24,000.82. The total for factory-installed options is \$3,027.00. The destination charge is \$200.00. What is the sticker price?
- A. \$27,227.82
 - B. \$20,973.82
 - C. \$3,227.82
 - D. \$24,000.82
39. Jeanne Barrons has decided to buy a new car. It has a base price of \$21,276.00, options totaling \$1,219.80, and a destination charge of \$590.00. While surfing the Internet, she learned that the dealer's cost is approximately 83 percent of the base price and 80 percent of the price of the options. What should Barrons estimate as the dealer's cost?
- A. \$19,224.92
 - B. \$17,659.09
 - C. \$18,634.92
 - D. \$19,430.84
40. Judy Clark wants to buy a car that has a base price of \$17,465 and options totaling \$700. The dealer's cost is about 89 percent of the base price and 86 percent of the price of the options. The destination charge is \$690. What is the dealer's price?
- A. \$16,589.00
 - B. \$16,835.85
 - C. \$16,440.05
 - D. \$15,640.20
41. Amy Miller's insurance policy has a \$218.80 premium for 25/100 bodily injury limits and \$25,000 property damage. The collision premium is \$74.00. Miller's driver-rating factor is 2.4. What is her annual premium?
- A. \$292.80
 - B. \$525.12
 - C. \$702.72
 - D. \$177.60
42. Cindy Mitchell is trying to determine the cost per mile to operate her sports car over the past year. Her variable costs, such as gasoline and maintenance, have been about \$600. Her fixed costs, including insurance and registration fees, plus \$800 depreciation, have been \$1,250. She has driven the car 6,500 miles. Find Mitchell's cost per mile.
- A. \$0.31
 - B. \$0.27
 - C. \$0.28
 - D. \$0.23

43. Geraldo Castro rented a car for 4 days at \$45 per day, and drove the car 600 miles at \$0.22 per mile. He spent \$50.00 for gasoline and purchased a collision waiver for \$12.00 per day. What is the total cost for renting the car?
- A. \$239.00
 - B. \$410.00
 - C. \$374.00
 - D. \$388.00
44. Add the following: \$53.34, \$44.30, \$608.13, \$439.05, \$23.18, \$627.32
- A. \$1,975.32
 - B. \$1,775.32
 - C. \$1,794.32
 - D. \$1,795.32
45. Round the answer to 3 places. 19.76 divided by $0.227 =$
- A. 87.044
 - B. 87.048
 - C. 78.084
 - D. 87.047
46. Change the mixed number $7\frac{5}{6}$ to improper fraction.
- A. $\frac{46}{6}$
 - B. $\frac{48}{6}$
 - C. $\frac{49}{6}$
 - D. $\frac{47}{6}$
47. Convert the decimal 0.0468 to lowest fraction.
- A. $\frac{117}{250}$
 - B. $\frac{468}{10000}$
 - C. $\frac{117}{2500}$
 - D. $\frac{468}{1000}$
48. Subtract the following fraction $8\frac{1}{4} - 3\frac{3}{4} =$
- A. $5\frac{1}{2}$
 - B. $4\frac{3}{4}$
 - C. $4\frac{1}{2}$
 - D. $5\frac{1}{2}$
49. Ashley Manor prepared $10\frac{2}{3}$ gallons of punch to be served at a wedding reception. The guests consumed $8\frac{3}{4}$ gallons. How many gallons were left over? Express fractional parts in lowest terms.
- A. $1\frac{11}{12}$ gallons
 - B. 1 gallon
 - C. $2\frac{1}{2}$ gallons
 - D. $2\frac{1}{8}$ gallons
50. Convert the following percent 15.4321% to decimals.
- A. 0.0154321
 - B. 0.154321
 - C. 0.00154321
 - D. 1.54321



FINANCIAL MATH & ANALYSIS

(12)



KEY

OPEN EVENT

Regional—2011

TOTAL POINTS _____(500)

Judges/Graders:

Please double-check and verify all scores!

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MULTIPLE CHOICE

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

- 27. C
- 28. B
- 29. C
- 30. A
- 31. B
- 32. B
- 33. B
- 34. A
- 35. D
- 36. B
- 37. A
- 38. A
- 39. A
- 40. B
- 41. C
- 42. C
- 43. B
- 44. D
- 45. B
- 46. D
- 47. C
- 48. C
- 49. A
- 50. B