

FINANCIAL MATH & ANALYSIS CONCEPTS (190)

—OPEN EVENT—

REGIONAL – 2015

DO NOT WRITE ON TEST BOOKLET

TOTAL POINTS _____ (500 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 60 minutes testing time.

Property of Business Professionals of America.
May be reproduced only for use in the Business Professionals of America
Workplace Skills Assessment Program competition.

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.*
- Interest is to be calculated on 365 days.

DOLLAR AMOUNTS

- All dollar amounts must be rounded to the second place (nearest cent).

Example: \$35.9765 to \$35.98

Multiple Choice: *Identify the letter that best completes each sentence or answers the question and mark it on the Scranton form provided.*

1. Mikayla Gonzalez is paid \$275 a week and a commission of 7% on all sales. Her sales last week were \$3,904. What were her total earnings for the week?
 - a. \$292.53
 - b. \$294.25
 - c. \$548.28
 - d. \$3,923.25

2. A student found seven apartments to choose from with the following monthly rents: \$615, \$450, \$290, \$525, \$675, \$450, and \$495. Which of these is *not* a measure of central tendency of the data?
 - a. \$385
 - b. \$450
 - c. \$495
 - d. \$500

3. Homeowners can buy a homeowners insurance policy, but renters cannot buy a renter's insurance policy.
 - a. True
 - b. False

4. A balance sheet gives data about
 - a. assets
 - b. liabilities
 - c. capital
 - d. all of the above

5. When you buy something using an installment plan, the difference between the installment price and the cash price is called the
 - a. down payment
 - b. finance charge
 - c. promissory note
 - d. all of the above

6. Which of the following would be considered a financial advantage of renting a house or apartment?
 - a. Renters receive no federal income tax benefits
 - b. Renters do not have the maintenance costs associated with home ownership
 - c. Renters do not build equity on the housing they rent
 - d. none of the above

7. Rhonda used her van at work for 25% of the 26,112 miles she drove last year. Her employer reimbursed work mileage at \$0.55 a mile. What reimbursement did Rhonda receive?
 - a. \$3,590.40
 - b. \$3,916.80
 - c. \$6,528.00
 - d. \$14,361.60

8. Which of the following is the best example of an outstanding transaction?
 - a. A cancelled check that has been returned by the bank
 - b. An ATM withdrawal that has not been recorded in the check register
 - c. A check recorded in the check register that the bank has not yet received
 - d. None of the above

9. David Grizwald was injured on his job. He is insured by a disability policy that pays 35% of his average annual salary of \$36,800. What amount does David collect monthly?
 - a. \$128.80
 - b. \$1,073.33
 - c. \$12,880.00
 - d. \$49,680.00

10. Over a 5-day period, Tonya had daily balances in her checking account of \$532.60, \$502.12, \$122.80, \$69.43, and \$1,291.05. What was her average daily balance for the 5 days?
 - a. \$2,518.00
 - b. \$911.80
 - c. \$503.60
 - d. \$6.90

11. When an employee takes his paycheck to the bank and deposits it into his savings account, he is taking advantage of direct deposit.
 - a. True
 - b. False

12. The Silverton's pay \$550 for monthly rent. They have an annual income of \$28,406. What percent of their income do they spend on rent?
 - a. 36%
 - b. 23%
 - c. 4%
 - d. 2%

13. Itchiro Nagatsune borrowed \$1,000 at 5% exact interest for 120 days. How much interest will Itchiro have to pay?
 - a. \$6,000.00
 - b. \$50.00
 - c. \$16.67
 - d. \$16.44

14. Johnie Gwinn invested \$3,000 in a 3-year CD that paid 4% annual interest. When he withdrew \$500 at the end of 2 years, his early withdrawal penalty was 6 month's interest. What was the amount of the penalty?
 - a. \$10
 - b. \$20
 - c. \$60
 - d. \$120

15. The regular price of a quart of motor oil is \$1.84. You can buy a 12-quart case of motor oil for \$16.99. How much will you save by buying oil by the case?
 - a. \$1.80
 - b. \$5.09
 - c. \$11.08
 - d. It is cheaper to buy quarts individually.

16. Which of the following one-time payments are renters Casey and Tonya typically required to pay in addition to their first month's rent when they sign a lease?
 - a. security deposit
 - b. renters policy premium
 - c. lease tax
 - d. utilities payment

17. Michael wants to earn 10% annual net income on his \$85,700 cash investment in a property that has two identical rental units. His annual expenses for owning the property are \$12,420. What monthly rent must Michael charge for each unit?
 - a. \$357
 - b. \$518
 - c. \$714
 - d. \$875

18. What is the total price of 8 Golf Frisbees @ \$7.89 with a sales tax of 6%?
 - a. \$8.36
 - b. \$59.33
 - c. \$63.12
 - d. \$66.91

19. Which of the following statements about state and city income taxes is true?
 - a. State and city income taxes never use a flat tax rate
 - b. If you owe federal income tax, you are not responsible for state or city income tax
 - c. State and city income tax are based on your federal taxable income
 - d. If you live in a city that charges income tax, you will not owe state income tax

20. Jennifer Siple works 36 hours per week 52 weeks a year. Her annual salary is \$32,300. What is her average pay per hour?
- \$16.50
 - \$12.25
 - \$17.25
 - \$18.33
21. The MACRS depreciation rates for 7-year class life equipment are 14.29% the first year and 24.49% the second year. What total depreciation would there be for the first two years on a copier that costs \$34,500 and has a 7-year class life?
- \$21,120.90
 - \$13,379.10
 - \$12,171.73
 - \$1,207.37
22. Dale has named Todd in his life insurance policy to receive the death benefits. Todd is referred to as a(n):
- policy holder
 - beneficiary
 - recipient
 - heir
23. What is another name for simple average?
- estimate
 - mean
 - best approximation
 - median
24. Morgan David works 40 hours per week 52 week a year. His annual salary is \$24,500. What is his average pay per hour?
- \$612.50
 - \$12.25
 - \$11.78
 - \$471.15
25. Mireya earned \$5,250, \$4,800, \$3,990, and \$5,120 from her home business during the last four months. What was her average monthly income during this period?
- \$4,790
 - \$5,000
 - \$3,510
 - \$3,832

26. Workers may claim one withholding allowance for which of the following?
- themselves
 - their spouse
 - each child or dependent
 - all of the above
27. Which of the following describes how to calculate take-home pay as a percentage of gross pay?
- Divide total deductions by gross pay
 - Divide take-home pay by gross pay
 - Divide total deductions by take-home pay
 - Multiply gross pay by 67%
28. Yolanda's annual salary is \$38,500 plus 22% in employee benefits. Her yearly job expenses are: uniforms, \$500; transportation and parking, \$5,350; and tools and certifications, \$1,200. What is her total salary including benefits?
- \$39,920
 - \$45,550
 - \$46,970
 - \$30,030
29. Tommy Harker lives in a town that charges a 0.5% city income tax rate. How much city income tax did he owe last year if he had federal taxable income of \$45,883?
- \$2,294.15
 - \$229.42
 - \$22.94
 - \$43,588.85
30. Which of the following is *not* a heading in a check register?
- interest rate
 - check number
 - balance
 - transaction
31. Which of the following best describes how to calculate a monthly periodic rate?
- Divide the APR by twelve and write as a decimal
 - Multiply the finance charge by twelve and write as a decimal
 - Multiply the APR by the number of days in the month and write as a decimal
 - Multiply the APR by twelve and write as a decimal
32. When comparing credit cards, all the following should be evaluated before making a decision with the *exception of*:
- the annual percentage rate
 - the credit limit available
 - the method used for calculating finance charges
 - the annual fees assessed

33. Brandon earns \$3,200 each month. He pays \$600 per month for housing, \$300 per month for a car loan, and \$150 per month in other debt payments. Find Branson's debt-to-income ratio to the nearest tenth of a percent.
- 32.8%
 - 3.04%
 - 30.48%
 - 3.28%
34. Which of the following is *not* a step in finding the interest from a simple interest table?
- Divide the principal by \$100 to find the number of hundreds in the principal
 - Find the value in the table corresponding to the appropriate interest rate and time
 - Multiply the value from the table by the number of hundreds in the principal
 - Subtract the value from the table from the calculated interest
35. When a lender calculates the payments on a loan so that each payment is the same, it is called:
- an equal payment plan
 - a balanced payment plan
 - a level payment plan
 - a repayment plan
36. Which of the following describes how to calculate simple interest?
- $\text{Interest} = \text{Principal} \div \text{Rate} \times \text{Time}$
 - $\text{Interest} = \text{Principal} \div \text{Rate} \div \text{Time}$
 - $\text{Interest} = \text{Principal} \times \text{Rate} \div \text{Time}$
 - $\text{Interest} = \text{Principal} \times \text{Rate} \times \text{Time}$
37. Which basic home owner's insurance category covers the extra costs of living incurred when your home is unavailable due to damage?
- additional living expense
 - personal liability
 - dwelling
 - personal property
38. Cassi bought 100, \$500, 7.25% bonds. What is her annual interest from the bonds?
- \$3,625
 - \$36.35
 - \$365.50
 - \$435.00

39. Pamela Hyland invested \$75,000 in a property. She expects her annual expenses of owning the property to be \$18,000. If Pamela wants to earn 8% annual net income on her capital investment, what monthly rent must she charge?
- \$2,500
 - \$2,750
 - \$2,000
 - \$1,750
40. Which of the following is a CPI index category?
- housing
 - recreation
 - food
 - all of the above
41. Which of the following describes how to calculate net pay?
- Subtract the total deductions from the net pay
 - Add the total deductions to the gross pay
 - Subtract the total deductions from the gross pay
 - Subtract the total deductions from the take-home pay
42. Victor budgeted 10% of his \$3,000 salary to entertainment. He must cut expenses and decides to decrease his monthly budget to 8%. To the nearest dollar, what is his adjusted budget amount for entertainment?
- \$240.00
 - \$300.00
 - \$220.00
 - \$120.00
43. Which organization is responsible for regulating the calculation of depreciation?
- CIA
 - UPS
 - DOT
 - IRS
44. When shipping charges are calculated per cwt, the customer is charged on the basis of weight per
- 50 pounds
 - 100 pounds
 - 10 pounds
 - pound
45. What kind of form do cashiers use to count the money in a drawer and check the amount against cash register readings?
- register form
 - reconcile form
 - cash proof form
 - change fund form

46. An invoice for \$1,500 dated December 14 has terms of sale of 3/10, 2/20, n/30. What is the amount of the cash discount if the invoice is paid on December 28?
- \$30.00
 - \$45.00
 - \$25.00
 - \$50.00
47. The average annual income for five sales associates last year was \$54,200. Four of the associated earned the following amounts: \$58,125, \$53,190, \$48,975, and \$56,000. What was the annual income of the fifth sales associate?
- \$54,200
 - \$54,710
 - \$43,258
 - \$54,098
48. The pay an employee receives from past months due to COLA lagging behind inflation is called:
- severance pay
 - endue pay
 - retroactive pay
 - bonus pay
49. Businesses that sell perishables such as food typically have
- low turnover rates.
 - negative turnover rates.
 - high turnover rates.
 - none of the above.
50. Emma is paid an hourly rate of \$12.65. When she works overtime she is paid $1\frac{1}{2}$ times her hourly rate. She occasionally works 40 hours per week when others are on vacation. What is her weekly gross pay if she works 25 hours per week?
- \$316.25
 - \$474.38
 - \$506.00
 - \$741.00