

FINANCIAL MATH & ANALYSIS CONCEPTS (190)

—OPEN EVENT—

REGIONAL – 2017

DO NOT WRITE ON TEST BOOKLET

TOTAL POINTS

_____ (100 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 sixty (60) minutes testing time

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Multiple Choice**Identify the letter that best completes each sentence or answers the question.**

1. Kelly found a job listed on Monster® that pays a yearly salary of \$68,000. What would be Kelly's weekly salary based on this annual income?
 - a. \$2,833.33
 - b. \$2,615.38
 - c. \$1,360.00
 - d. \$1,307.69

2. Based on Question 1, what would be Kelly's hourly wage for this job?
 - a. \$34.00
 - b. \$32.69
 - c. \$35.42
 - d. \$35.69

3. Bill secured a job through a headhunter. The job pays \$4,640.00 per month. Bill must pay a fee to the headhunter. The fee is 15% of his first three months' pay. How much does Bill need to pay his headhunter for her services?
 - a. \$ 208.80
 - b. \$ 696.00
 - c. \$1,392.00
 - d. \$2,088.00

4. Hector earned \$88,420 in 2014. During that year, the Social Security tax rate was 6.2% of income up to \$117,000 and the Medicare tax rate was 1.45%. What was the total amount that Hector paid for Social Security and Medicare taxes for 2014?
 - a. \$1,282.09
 - b. \$5,482.04
 - c. \$6,764.13
 - d. \$8,950.50

5. Pearl Grey made a deposit to her savings account. The deposit consisted of: 19-twenty dollar bills, 13-five dollar bills, 37-quarters, 15-nickels, and two checks-\$321 and \$89. What was the total amount that Pearl deposited into her savings account?
 - a. \$ 75
 - b. \$445
 - c. \$455
 - d. \$865

6. S. Grumpy kept \$3,600 in a three-year certificate of deposit (CD) that pays simple interest at a fixed rate of 6.3%. At the end of the three years upon the maturity date of the CD, how much will S. Grumpy receive from the bank?
 - a. \$ 680.40
 - b. \$4,280.40
 - c. \$2,268.00
 - d. \$5,868.00

7. A food vendor at a local county fair had cash receipts for the week of: \$620, \$887, \$432, \$1,028, \$689, \$498, \$718. What is the average daily cash receipts for the week?
 - a. \$ 696.00
 - b. \$ 969.00
 - c. \$ 974.40
 - d. \$4,872.00

8. P. Revere earned \$57,500 last year. He spent \$14,400 for his rent in Boston during the year. What percent of his income did he spend on rent last year?
 - a. 25.0%
 - b. 25.2%
 - c. 74.9%
 - d. 4.0%

9. S. Adams was injured during an altercation in Boston and spent 10 days at Boston Medical Center. His total medical bill was \$154,700. S. Adams's major medical coverage pays for 80% of medical expenses after a \$1,000 deductible. How much will S. Adams's insurance company pay toward his stay in the hospital?
 - a. \$ 30,740
 - b. \$ 30,940
 - c. \$122,960
 - d. \$123,760

10. Antonio Rameriz purchased 1,300 shares of stock from his broker for \$18.20 per share. The broker charged a commission of 1.5%. What is the total cost of the stock?
 - a. \$ 354.90
 - b. \$22,660.00
 - c. \$23,660.00
 - d. \$24,014.90

11. B. Affleck bought a townhouse in Boston's Back Bay for \$950,000. He made a \$300,000 down payment and got a \$650,000 mortgage for the balance. He decided to rent his townhouse for the year to a tenant for \$6,000 a month. B. Affleck's annual payments for taxes, repairs, insurance, and other expenses totaled \$68,900. What annual net income did he earn from renting his townhouse?
 - a. \$ 3,100
 - b. \$ 75,100
 - c. \$ 72,000
 - d. \$578,000

12. P. Ewing is paid a commission of 14.5% on all sales above \$12,000 for a week. He is also paid a weekly salary of \$620. What are his total gross earnings for a week in which his sales were \$19,740?
- a. \$1,122.30
 - b. \$1,740.00
 - c. \$1,742.30
 - d. \$2,862.30
13. B. Franklin works at a company that uses a semimonthly pay system. He makes an annual salary of \$81,800. What is his hourly rate of pay?
- a. \$39.33
 - b. \$42.60
 - c. \$78.65
 - d. \$85.21
14. A. Fiedler borrows \$25,000 at 6.5% banker's interest for 75 days. What interest will he pay on the loan?
- a. \$ 333.90
 - b. \$ 338.54
 - c. \$25,333.90
 - d. \$25,338.54
15. J. Hancock insured his condominium for \$470,000 at an annual rate of \$.92 per \$100. What is his annual insurance premium?
- a. \$510,869.57
 - b. \$432,400.00
 - c. \$ 3,424.00
 - d. \$ 4,324.00
16. J. F. Kennedy made three trades through his online discount broker. The broker charges a fee of \$15 per trade. J. F. Kennedy made three purchases at different times during the day. His first purchase was for \$10,220. The second purchase was for \$16,800 and his last purchase was for \$9,478. How much did he spend on the day's purchases?
- a. \$ 45
 - b. \$36,453
 - c. \$36,498
 - d. \$36,543

17. Edgar Poe had a balance of \$445 in his checking account before he completed the following transactions: deposit, \$2,340; debit card purchase of \$89 and \$42; made online payments of \$133, \$240, \$92; wrote checks for \$165, \$1,400, \$525. What is the balance of Edgar's checking account after these transactions?
 - a. \$ 99
 - b. \$ 346
 - c. \$ 361
 - d. \$1,029

18. Pedro earned a gross pay of \$2,430 last week. From his gross pay the following were subtracted: Federal withholding tax, \$276; social security tax, 6.2%; Medicare tax, 1.45%; health insurance, \$309.28; and \$270 in union dues. What was Pedro's net pay?
 - a. \$1,041.18
 - b. \$1,388.00
 - c. \$1,388.82
 - d. \$3,471.18

19. Maria wants to purchase a piano. The price of the piano with tax is \$4,160. If she can save \$225 per month, how many months will it take Maria to purchase the piano?
 - a. 12 months
 - b. 15 months
 - c. 18 months
 - d. 19 months

20. Chi Bui is filling out her income tax return. Her tax for last year is \$1,778. Her employer withheld \$1,924. Will Chi get a tax refund or will she owe the government money? How much?
 - a. \$146, refund
 - b. \$146, owe
 - c. \$236, refund
 - d. \$236, owe

21. Jonah received a total piecework paycheck of \$391.68. He receives 68 cents per unit produced. How many units did he produce?
 - a. 575 units
 - b. 576 units
 - c. 580 units
 - d. 600 units

22. Sarah earns \$15.00 per hour at her job. She regularly works 40 hours per week. She is paid time-and-a-half for each hour of overtime work. Last week she worked a total of 53 hours. What was Sarah's gross pay for the week?
- \$ 22.50
 - \$795.00
 - \$892.50
 - \$990.00
23. Jose and Anita took out a 15-year term life insurance policy with a face value of \$350,000. The monthly premium is \$82. What will Jose and Anita's total cost be over the 15-year period?
- \$1,230.00
 - \$1,944.44
 - \$4,268.29
 - \$14,760.00
24. A locally owned business plans to sell its products online. They hired a web designer who is charging them \$15,000 to build the website. Server use and storage space will cost \$600 a month while high-speed Internet access will cost \$325 a month. The web designer will also maintain the web site for \$1,600 per year. What is the first-year cost of the site to the business?
- \$17,525
 - \$27,700
 - \$45,300
 - \$54,400
25. A newspaper charges \$48.75 a line per day for employment advertising. A school system placed a 16-line ad for a teacher in the newspaper for three days. The newspaper's policy is that any ad placed for more than two days receives a 10% discount. What was the total cost of the ad to the school system?
- \$ 780
 - \$1,404
 - \$2,106
 - \$2,340
26. Sabrina works full time in a retail store. She is guaranteed a salary of \$1,320 a month, or 6 percent of her total sales, whichever is greater. What is her gross pay for a month in which her total sales were \$22,730?
- \$ 43.80
 - \$ 136.38
 - \$1,320.00
 - \$1,363.80

27. Patrick deposited \$2,400 in a savings account that earns 5.75 percent interest compounded quarterly. How much would be in Patrick's account at the end of the third quarter?
- \$2,400.00
 - \$2,505.00
 - \$2,503.50
 - \$2,605.00
28. Carlos bought a new cell phone for \$259 and a case for \$39.95. What is the total sales tax if Carlos lives in Boston, Massachusetts, where the state tax is 5.5 percent and the city tax is 2.2 percent?
- \$ 19.94
 - \$ 23.02
 - \$298.95
 - \$321.97
29. During a Black Friday sale, a retail store placed 40" flat screen televisions on sale for 60% off the regular price of \$699. What is the markdown amount?
- \$ 27.96
 - \$ 41.94
 - \$279.60
 - \$419.40
30. Deonte's charge account statement showed a previous balance of \$342, a finance charge of \$6.28, new purchase of \$143.70, a payment of \$120, and a credit of \$63.22. What is the new balance of Deonte's charge account?
- \$8.80
 - \$296.20
 - \$308.76
 - \$675.20
31. Kenzi wants to purchase a car costing \$23,500. She will finance the car with an installment loan from the bank but would like to finance no more than \$18,000. What percent of the total cost of the car should Kenzi's down payment be?
- 23.4 %
 - 30.5%
 - 30.6%
 - 76.6%

32. Anthony is purchasing a new laptop with an installment loan that has an annual interest rate of 11.5 percent. The laptop sells for \$1,899.99. Store financing requires a 15% down payment and 12 monthly payments. What will be Anthony's monthly payment?
- \$150.09
 - \$150.10
 - \$176.53
 - \$176.54
33. The Rodriguez family is purchasing a new SUV with a base price of \$26,800. The options they have chosen to be included are a touch-screen DVD navigation system at \$1,650 and a keyless entry system at \$268. The destination charge is \$549. What is the sticker price?
- \$26,800
 - \$27,349
 - \$28,169
 - \$29,267
34. Chantilly drove her car 10,740 miles last year. Her variable costs totaled \$656.45. Her fixed costs totaled \$1,921.15. What was the cost per mile for her to operate her car last year?
- \$0.06 per mile
 - \$0.18 per mile
 - \$0.24 per mile
 - \$0.30 per mile
35. The Simpsons own 500 shares of Bob, Inc., which they purchased for \$21.10 per share. They also purchased 350 shares at \$18.90 per share. The dividend per share paid by the company is \$0.72. How much did the Simpsons receive in a dividend check from Bob, Inc.?
- \$153
 - \$252
 - \$360
 - \$612
36. Kaitlyn is a computer programmer who makes \$87,800. Her company has voted to give all employees a cost-of-living adjustment of 3.2 percent. Kaitlyn also received a merit increase of 4 percent for outstanding job performance. What will Kaitlyn's salary be for the coming year?
- \$90,609.60
 - \$91,312.00
 - \$94,121.60
 - \$96,265.60

37. The Boston School System is sending 12 teachers to a 4-day conference to be trained on a new math program. Six of the teachers earn a daily rate of \$382.51 while the other six teachers earn a daily rate of \$229.51. Each teacher is allowed a \$40 daily meal allowance. The total cost of hotel rooms for the conference is \$11,136. Travel cost for each teacher is \$80. What is the total cost of this conference for the Boston School System?
- \$25,824.48
 - \$26,784.48
 - \$27,744.48
 - \$28,704.48
38. Max, Inc. has assets valued at \$334,800 and liabilities of \$102,500. What is the net worth of Max, Inc.?
- \$132,300
 - \$232,300
 - \$337,300
 - \$437,300
39. Mountain Meadow Lodge, a wedding venue in Vermont, had sales for last year of \$892,100. Total sales for the Vermont wedding venue market last year were \$13,670,000. What share of the wedding venue market did Mountain Meadow Lodge have last year?
- 6.5%
 - 6.6%
 - 15.3%
 - 15.4%
40. National Balloon Company started their year with 3,000 balloons in inventory. The company received inventory shipments of 1,100, 3,200, and 2,600 balloons during the year. They completed two shipments to customers during the year of 800 and 1,560 balloons. What is National Balloon Company's inventory at the end of year?
- 4,540 balloons
 - 6,900 balloons
 - 7,540 balloons
 - 12,260 balloons
41. The Back Bay Company allocates rent to their departments by the square footage they occupy. Within the company, there are three departments: Sailing, 1,020 sq. ft.; Kayaking, 860 sq. ft.; Small Motor Boats, 1,340 sq. ft. The company pays \$2,100 for rent each month. What is the rent per square foot?
- \$.65
 - \$.66
 - \$1.53
 - \$1.54

42. Delectable Cupcakes Company just purchased a new industrial oven for \$8,800. The oven is estimated to have a life of 6 years and a salvage value of \$600. What is the amount of the annual depreciation using the straight-line method of depreciation?
- a. \$1,366.66
 - b. \$1,366.67
 - c. \$1,466.67
 - d. \$1,640.00
43. Last month, Mike's Pastries had total sales of \$17,300. The cost of the merchandise sold was \$9,100 and the operating expenses for the month were \$690. Did Mike's Pastries have a net profit or a net loss for the month? How much?
- a. \$7,510, net profit
 - b. \$7,510, net loss
 - c. \$8,200, net profit
 - d. \$8,200, net loss
44. Quincy gets paid bi-weekly. His current yearly salary is \$56,912. How much is his gross earnings per pay period?
- a. \$4,742.67
 - b. \$2,371.33
 - c. \$2,188.92
 - d. \$1,094.46
45. Wilt Chambers is guaranteed a minimum salary of \$325 a week, or 8 percent of his total sales, depending on whichever is greater. What are Wilt's gross earnings for the week if his total sales were \$3,418?
- a. \$ 273.44
 - b. \$ 325.00
 - c. \$ 598.44
 - d. \$3,418.00

Use the following information for questions 46-48:

In November, The Lobster Pond, executed a 2-for-1 stock split. Casey owned 300 shares before the split. The current market price of each share is \$142.60.

46. How many shares of stock will Casey have after the split?
- 150 shares
 - 300 shares
 - 600 shares
 - 750 shares
47. What will be the market price of each share of stock after the stock split?
- \$ 47.53
 - \$ 71.30
 - \$142.60
 - \$285.20
48. What will be the value of Casey's stock holdings after the stock split?
- \$10,695
 - \$21,390
 - \$42,780
 - \$53,475
49. Brandon and Lydia have a joint checking account. Their balance at the beginning of March was \$10,482.40. During the month they made deposits totaling \$3,190.81, made online payments totaling, \$4,670.30, paid a maintenance fee of \$15, and earned interest of \$18.96. What was the balance at the end of the month?
- \$ 9,002.91
 - \$ 9,006.87
 - \$ 9,036.87
 - \$10,486.36
50. Tyler works as a waiter. He earns \$4.70 per hour plus tips. Today, Tyler worked an 8-hour shift and waited on 23 tables whose average bill was \$48.00. He made an average of 17% in tips on these bills. How much did Tyler earn today as a waiter?
- \$ 37.60
 - \$ 45.76
 - \$187.68
 - \$225.28



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

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1	D		26	D
2	B		27	B
3	D		28	B
4	C		29	D
5	D		30	C
6	B		31	A
7	A		32	B
8	A		33	D
9	C		34	C
10	D		35	D
11	A		36	C
12	C		37	D
13	A		38	B
14	B		39	A
15	D		40	C
16	D		41	A
17	A		42	B
18	C		43	A
19	D		44	C
20	A		45	B
21	B		46	C
22	C		47	B
23	D		48	C
24	B		49	B
25	C		50	D