

DO NOT WRITE ON TEST



**FINANCIAL MATH &
ANALYSIS CONCEPTS**

~OPEN EVENT~

(190)

REGIONAL 2021

TOTAL POINTS

_____ **100 Points**

Test Time: 60 minutes

GENERAL GUIDELINES:

Failure to adhere to any of the following rules will result in disqualification:

1. Contestant must hand in this test booklet and all printouts if any. 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 (handwritten, photocopied, or keyed) are allowed in the testing area.
3. Electronic devices will be monitored according to ACT standards.
4. For any interest calculations, assume a 360-day year.
5. Unless otherwise stated, assume that all plant assets were purchased on January 1.
6. Unless otherwise stated, assume that the overtime rate is 1.5 regular time pay for any hours worked in excess of 40 hours per week.

Identify the letter of the choice that best completes the statement or answers the question.

1. Paul used his personal truck at work for 25% of the 52,224 miles he drove last year. His employer reimbursed work usage mileage at \$.55/mile. What was Paul's reimbursement at the end of the year?
 - A. \$7,180.80
 - B. \$7,833.60
 - C. \$13,056.00
 - D. \$14,361.60

2. Digital Solutions estimates that bad debts will 4.3% of net sales. Net sales for the year were \$1,346,059.32. What amount of bad debts is Digital Solutions expecting for next year?
 - A. \$578,805.51
 - B. \$146,665.59
 - C. \$57,880.55
 - D. \$5,788.06

3. Terry was injured on the job. He holds a disability policy that will pay 45% of his annual salary of \$72,500 while off work. What amount will Terry collect if he is out of work for two months and is paid semi-monthly?
 - A. \$1,254.81
 - B. \$5,437.50
 - C. \$2,559.81
 - D. \$4,359.38

4. Brad is a customer of Digital Solutions. Brad has requested more than the 30 days that a normal Accounts Receivable would give him. Both parties agreed on a \$9,600, 60-day, 11% note that was signed on August 12. Assuming Brad pays the note on the due date, what amount of interest will he pay?
 - A. \$1,222.46
 - B. \$1,056.00
 - C. \$422.36
 - D. \$176.00

5. Kody borrowed \$1,000 and agreed to pay 5% interest over 4 months. What would be the total amount that Kody would need to pay on the due date?
 - A. \$1,035.67
 - B. \$1,035.12
 - C. \$1,016.67
 - D. \$1,016.44

6. Brand A sandwich bags cost \$4.69 for a box of 100, Brand B sandwich bags cost \$5.89 for a box of 150, and Brand C sandwich bags cost \$8.69 for a box of 280. Which box of sandwich bags is cheapest per bag?
- A. Brand A
 - B. Brand B
 - C. Brand C
 - D. There is no price difference.
7. A smartboard is purchased on January 1 for \$9,400. It has a useful life of five years and a salvage value of \$1,100. What is the depreciable cost of the asset?
- A. \$9,400
 - B. \$8,300
 - C. \$10,500
 - D. \$1,100
8. A smartboard is purchased on January 1 for \$9,400. It has a useful life of five years and a salvage value of \$1,100. Using the straight-line method of depreciation, how much depreciation will be taken in the first year?
- A. \$1,880
 - B. \$2,980
 - C. \$1,660
 - D. \$1,836
9. If a plant asset that cost \$4,200 and has accumulated depreciation of \$2,600 is discarded, the gain or loss on disposal is _____.
- A. \$3,500 gain
 - B. \$3,500 loss
 - C. \$1,600 gain
 - D. \$1,600 loss
10. Keri is a website designer for Desi's Dozens. Keri earns a regular hourly rate of \$26.12, as well as time and a half for overtime work on Saturdays and double time on Sundays. This week Keri worked 36 hours from Monday through Friday, 4 hours on Saturday, and 0 hours on Sunday. What is Keri's total pay for the week?
- A. \$1,044.80
 - B. \$1,149.28
 - C. \$1,097.04
 - D. \$ 987.23

11. Jackson's Produce purchased 2,000 two-pound melons at 34 cents/pound and is shipping them from Texas to his store in Baltimore. During the trip, Jackson anticipates 60 pounds of shrinkage by the time it reaches the loading dock. With total shrinkage allocated, what would be the total loss in dollars from the original purchase?
- A. \$277.00
 - B. \$20.40
 - C. \$154.36
 - D. \$13.96
12. New Directions pays \$5,000 in advance for four months' rent on April 1. How much will New Directions adjust the Prepaid Rent account for on June 30, the end of Quarter 2?
- A. \$1,250
 - B. \$2,500
 - C. \$3,750
 - D. \$4,000
13. Lane earns a weekly salary of \$1,272 at Kim's Antiques. How much is Lane's annual salary?
- A. \$66,144
 - B. \$61,056
 - C. \$63,600
 - D. \$66,326
14. The Supplies account had a beginning balance of \$73. During the first quarter of 2020, \$87 of supplies were purchased. At the end of the quarter, it was determined that \$38 of supplies were still on hand. What is amount of supplies which were used during the period?
- A. \$122
 - B. \$35
 - C. \$49
 - D. \$14
15. Chilton Mfg. purchased materials on account from Stars Hollow Inc. for \$4,800 on December 10. Stars Hollow offered Chilton credit terms of 2/10, n/30. If Chilton pays Stars Hollow on December 18, how much does Chilton owe?
- A. \$4,800
 - B. \$4,320
 - C. \$4,704
 - D. \$3,360

16. Petty cash has an initial balance of \$100. There are currently petty cash tickets totaling \$76, and there is \$20 in the petty cash envelope. Is petty cash over or short and by how much?
- A. Short \$4
 - B. Over \$4
 - C. Short \$24
 - D. Over \$24
17. Anna is traveling to Paris and needs to convert her US dollars to local currency. If the conversion rate is \$1.10, how much will it cost Anna to get €500?
- A. \$500
 - B. \$550
 - C. \$610
 - D. \$490
18. Digital Solutions grants all employees a 3% pay raise. If Scott currently earns \$48,000 per year, how much will his salary increase by after the pay raise?
- A. \$1,440
 - B. \$14,400
 - C. \$33,600
 - D. \$49,440
19. Jay has \$56 in his checking account on Monday morning. Jay's paycheck of \$1,900 was deposited on Tuesday morning, and on Tuesday afternoon Jay bought groceries with his debit card totaling \$87. On Wednesday Jay used his debit card to fill up his car with gas for \$23. On Thursday Jay paid three bills – rent \$500, electric bill \$175, and car insurance \$125. On Friday Jay went out to lunch with friends and spent \$14 (paid for with his debit card). How much money does Jay have in his checking account at the end of the week?
- A. \$3,304
 - B. \$2,976
 - C. \$1,032
 - D. \$996
20. Rob's employer allots each employee \$1,800 a year for travel, and any amounts spent over this budget will *not* be reimbursed by the company. Rob recently traveled to a professional conference and spent \$300 on conference registration, \$750 on hotel, \$455 on flight, \$192 on meals, \$36 on parking at the airport, \$68 on transportation at his destination, and \$60 in checked-bag fees. How much of the travel expenses will *not* be reimbursed by Rob's employer?
- A. \$1,800
 - B. \$161
 - C. \$61
 - D. All expenses will be reimbursed.

21. Lourdes has reserved a hotel room for four nights. The hotel rate is \$199 per night, with a 15% hotel tax rate, a 1% tourism tax rate, and a 3% business district tax rate. How much will Lourdes' hotel bill be in total?
- A. \$796.00
 - B. \$811.12
 - C. \$902.90
 - D. \$947.24
22. Rodney normally works 40 hours a week and earns \$680. On Wednesday Rodney left work 5 hours early. How much will Rodney earn this week?
- A. \$595
 - B. \$85
 - C. \$580
 - D. \$680
23. Alejandro is a professional photographer. Alejandro spent \$13 in gas to travel to the location of the photo shoot, \$6 in supplies during the photo shoot, and \$58 to have the photos printed afterwards. What was the total cost to Alejandra of this job?
- A. \$77
 - B. \$58
 - C. \$19
 - D. \$64
24. Jane purchased a plot of land for \$150,000. In addition to the price of the land, Jane had to pay \$5,000 for a survey, \$750 in title transfer fees, and additional closing costs of \$3,500. What is the capitalized cost of the land?
- A. \$150,000
 - B. \$158,500
 - C. \$159,250
 - D. \$155,750
25. Digital Solutions had weekly sales of \$18,950. If the state sales tax rate is 8.25%, how much sales tax will Digital Solutions have to remit to the state government?
- A. \$15,634.75
 - B. \$1,563.38
 - C. \$3,315.25
 - D. \$1,526.00
26. Mark owns a leather-working company. For the month of November, Mark spent 173 hours working on jobs for customers. The electric bill for the month of November was \$849.43. If Mark assigns utilities to each job based on the number of labor hours worked, how much of the electric bill will Mark assign to a job that took 42 hours to complete?
- A. \$491.00
 - B. \$206.22
 - C. \$113.56
 - D. \$20.22

27. Audrey buys a new car with a sticker price of \$17,999. Audrey agrees to make monthly payments of \$350 for 5 years. How much will Audrey have actually paid for the car by the time she finishes paying for it?
- A. \$17,999
 - B. \$18,349
 - C. \$19,749
 - D. \$21,000
28. Paul is setting up a budget for his family of 4. If Paul spends \$120 each week on groceries to feed his family for 7 breakfasts, 7 dinners, and 2 lunches, what is the average cost of each meal for Paul's family?
- A. \$17.14
 - B. \$30.00
 - C. \$1.88
 - D. \$7.50
29. Two weeks ago, Tony filled up his car with 12.5 gallons of gas and was able to drive 330 miles before needing to fill up again. Last week, Tony put 11.9 gallons of gas into his car and was able to drive 319 miles. This week Tony put 12.7 gallons of gas into his car and was able to drive 334 miles. What is the average miles per gallon that Tony's car gets?
- A. 26.50 mpg
 - B. 27.73 mpg
 - C. 26.40 mpg
 - D. 26.30 mpg
30. Angela has registered to take a class at her local community college. If the in-county tuition is \$72 per hour, with a \$10 lab fee and a textbook that costs \$118, what is the total cost of a 3-hour class?
- A. \$216
 - B. \$98
 - C. \$200
 - D. \$344
31. Elizabeth takes regular medication that costs \$12 per month. If Elizabeth's insurance has a \$50 prescription deductible, and Elizabeth doesn't take any other medications, how many months will Elizabeth have to pay for her medication out-of-pocket before her deductible is met?
- A. 1 month
 - B. 5 months
 - C. 9 months
 - D. 12 months

32. Jackson's average electric bill is \$190 a month. Jackson wants to put in a pool, but is told to expect his electric bill to increase by 10% on average. If Jackson puts in a pool, what will his average electric bill increase to?
- A. \$19
 - B. \$199
 - C. \$209
 - D. \$200
33. Jason is planning to sell his car and buy a new one. The new car costs \$16,000, but Jason estimates that he can trade-in his car for \$8,000, and he has saved \$2,000 to put towards the new car. Jason has calculated that he will have to make monthly payments of \$180 for three years on the new car. How much will Jason pay for the new car in total after three years?
- A. \$16,000
 - B. \$16,480
 - C. \$8,480
 - D. \$10,000
34. Sarrinah's favorite store is offering 30% off all merchandise. If Sarrinah buys a purse with a regular price of \$56, how much will she pay for the purse after the discount?
- A. \$16.80
 - B. \$54.32
 - C. \$52.08
 - D. \$39.20
35. Archie is hosting a training workshop. Archie has rented a room that can hold 25 people for \$300. Archie will provide handouts to each participant, which cost \$4.80 each to copy, as well as a combination pen and highlighter, which each cost \$0.36. He estimates that snacks will cost a total of \$50. If Archie's workshop sells out, what will be the cost per person for Archie to put on the workshop?
- A. \$19.16
 - B. \$5.16
 - C. \$14.21
 - D. \$7.16
36. Digital Solutions is planning to replace the carpet in their conference room. If the room measures 18 feet long by 22 feet wide with 10 feet tall ceilings, how much carpet will Digital Solutions need to buy?
- A. 80 square feet
 - B. 198 square feet
 - C. 396 square feet
 - D. 400 square feet

37. Peter and his five cousins inherit a 300-acre ranch from their grandparents. The cousins decide to sell the land for \$1,320,000 and split the proceeds evenly. How much will Peter receive from the sale of the land?
- A. \$220,000
 - B. \$264,000
 - C. \$22,000
 - D. \$1,320
38. Thomas purchased 25 shares of Digital Solutions' stock when the stock was trading at \$126 per share. If the stock price increased by 3%, at what price will Thomas sell the stock at?
- A. \$126.78
 - B. \$37.80
 - C. \$173.80
 - D. \$129.78
39. Digital Solutions declared a \$500,000 dividend. If Digital Solutions has 135,000 shares of common stock outstanding, how much will Digital Solutions pay out per share?
- A. \$3.70
 - B. \$3.65
 - C. \$0.27
 - D. \$1.35
40. Owen, Amelia, and Lincoln are all in a partnership together. In the partnership agreement, they agreed to a $\frac{3}{3/2}$ split, respectively, of all partnership profits and losses. If the partnership made \$138,000 in profits last year, how much of the partnership profits will be distributed to Lincoln?
- A. \$46,000
 - B. \$34,500
 - C. \$51,750
 - D. \$27,600
41. Last year Digital Solutions planned to sell 5,000 units during the first quarter at \$75 each. Digital Solutions actually sold 5,190 units and total sales were \$375,756. At what price did Digital Solutions actually sell their units at?
- A. \$75.00
 - B. \$75.15
 - C. \$71.04
 - D. \$72.40
42. Donald purchased a boat seven years ago for \$96,000. Donald sold the boat today for \$36,000. If the boat had total accumulated depreciation of \$62,125, what was Donald's gain or loss on the sale of the boat?
- A. Gain \$2,125
 - B. Gain \$33,911
 - C. Loss \$60,000
 - D. Loss \$26,125

43. Last year Digital Solutions had taxable profits of \$1,386,000. If Digital Solutions' corporate tax rate is 33%, how much did they pay in taxes last year?
- A. \$485,100
 - B. \$415,800
 - C. \$457,380
 - D. \$451,440
44. Mikayla has earned scholarships to pay for 85% of her tuition for the semester. If Mikayla's tuition for the semester was \$2,640, how much did she have to pay out of pocket?
- A. \$369
 - B. \$2,244
 - C. \$396
 - D. \$2,091
45. Noah has a \$700 balance on his credit card after making his payment last month. If Noah's credit card charges 18% interest, and Noah didn't make any new charges to the card, what will be the new balance on his credit card this month?
- A. \$718
 - B. \$126
 - C. \$826
 - D. \$1,260
46. Spencer is a professional baseball player and is negotiating a contract with his new team. Spencer is asking for \$800,000 for the year with an additional \$6,000 for every game he starts. If Spencer starts 42 games next year, how much will he earn?
- A. \$1,136,000
 - B. \$252,000
 - C. \$3,385,200
 - D. \$1,052,000
47. Olivia is searching for a basic cell phone plan for her grandmother. She is interested in being able to have a cell phone for limited use and in case of emergencies. Olivia has found a plan that charges a \$29 fee per month plus \$0.05 for each minute. If Olivia's grandmother usually talks on the phone for 2 hours each month, how much will her phone bill be??
- A. \$29.10
 - B. \$6.00
 - C. \$35.00
 - D. \$58.00

- 48.** It takes Kenny 15 hours to drive the 1,114 miles from Dallas to Lambeau Field. If Kenny's car gets 24 miles per gallon, how many gallons of gas will he use to make the roundtrip?
- A. 360 gallons
 - B. 93 gallons
 - C. 696 gallons
 - D. 46 gallons
- 49.** Callahan has a budget of \$600 to spend on car rental for her upcoming vacation. If she can rent a car for \$75 per day with unlimited mileage, how many days can she drive?
- A. 8 days
 - B. 10 days
 - C. 12 days
 - D. 5 days
- 50.** Last month Sybill worked 22 hours the first week, 25 hours the second week, 14 hours during week three, and 19 hours in week four. If Sybill's gross pay for those four weeks was \$960, what was Sybill's hourly rate?
- A. \$6
 - B. \$12
 - C. \$15
 - D. \$10



**BUSINESS
PROFESSIONALS**
of **AMERICA**
Giving Purpose to Potential



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TOTAL POINTS

_____ **100 Points**

Test Time: 60 minutes

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