

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

BUSINESS MATHEMATICS

Monday, June 18, 1984 — 1:15 to 4:15 p.m., only

There are two parts to this examination. Part I is worth 60 credits and Part II is worth 40 credits. You may use scrap paper and you may write in the examination booklet, but you must record the answers to the questions in this examination in the separate answer booklet. Use pen to write in the answer booklet. Be sure to fill in the heading of your answer booklet.

When you have completed the examination, you must sign the statement printed at the end of the answer booklet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer booklet cannot be accepted if you fail to sign the declaration.

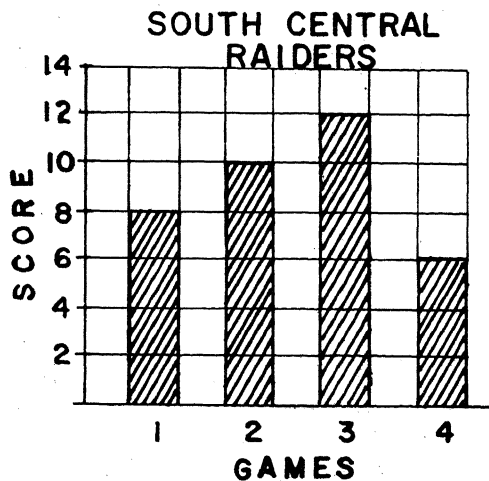
DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN

Part I

Answer any 30 of the 34 questions in this part. Scrap paper may be used. Write only your answers in the separate answer booklet. No partial credit will be allowed. [60]

- 1 Add:
$$\begin{array}{r} 163.7 \\ 8.413 \\ 49.62 \\ 75.28 \\ \hline 110.9 \end{array}$$
- 2 Change .05 to a percent.
- 3 Divide: 1590.022 by 27.4
- 4 Five years ago Martin purchased a car for \$2,880. Today, he is trading the car in for \$550 toward the purchase of a new car. What was the average annual depreciation of the old car?
- 5 Burke pays \$2,100 of her \$6,000 yearly budget for rent. What percent of her budget is the rent?
- 6 A \$10,000 straight-life insurance policy can be purchased for \$100.40 annually, or for \$9.30 monthly. How much money can be saved each year by paying on an annual basis rather than on a monthly basis?
- 7 Wong insured her summer home against fire loss for \$16,500. The annual insurance rate was \$.64 per \$100. What was the annual cost of this policy?
- 8 A township has budgeted expenses of \$1,259,000 for a given year. It expects to collect \$23,780 through fines and licenses and the rest through taxes. How much must be collected through taxes to cover these expenses?
- 9 Decker mortgaged his home for \$20,000. If he pays \$161.12 a month for twenty years, what total amount of interest will he pay on his mortgage?
- 10 Tomkowski pays an annual automobile insurance premium of \$273. What is his average *weekly* cost for this insurance?
- 11 Collins purchased automobile insurance which included collision coverage with a \$50 deductible. Her car was damaged in a collision and the repair bills amounted to \$476.25. How much should she receive from the insurance company in settlement of the claim?
- 12 Harrison purchased a new automobile by trading in his present automobile. He can settle the remaining unpaid balance by paying \$50 a month for 24 months or \$35 a month for 36 months. What amount of money will he save by paying the balance in 24 months rather than 36 months?
- 13 Cooper, a storeowner, had sales of \$25,358 during the month of May. He paid the factory \$15,212 for the merchandise he sold and had operating expenses of \$7,832. What was Cooper's net profit for the month?
- 14 An article listed at \$40 is sold for \$30. What is the rate of discount on the list price?
- 15 Blackwell buys radios at a list price of \$58 each, less a trade discount of 15%. What is her cost for each radio?
- 16 An electric typewriter that costs \$800 when new depreciates at the rate of $12\frac{1}{2}\%$ each year. What is the value of this typewriter after one year?
- 17 The shoe department of a variety store operates on a markup of 45% of the cost. On this basis, what is the selling price for shoes that cost the store \$10.75 a pair?
- 18 A candy manufacturer advertised a special on candy. A $2\frac{1}{2}$ -pound box was reduced to \$1.95. At this rate, what was the cost of 1 pound of this candy?

- 19 Fran's Dress Shop received an invoice for \$480 for a shipment of merchandise dated April 1, terms 3/10, n/30. What amount will be needed to pay the invoice on April 11?
- 20 The salespeople at Rond's receive a weekly salary of \$150.00, plus a commission of 6% on that part of their sales in excess of \$500 a week. Last week Tucker's total sales amounted to \$850. What was the total amount of her earnings for last week?
- 21 Based on the graph below, what was the average score for the South Central Raiders for the four recorded games?



- 22 The office of the AM & A Company uses an average of 444 pencils a month. If the pencils cost 36 cents a dozen, what is the total monthly cost of pencils?
- 23 The Kar Motor Supply Company publishes a weekly magazine for its 653 employees. The cost of publishing the magazine for a four-week period was as follows:
- | | |
|-------------|---------|
| First week | \$1,474 |
| Second week | 1,212 |
| Third week | 1,378 |
| Fourth week | 1,160 |
- What was the average cost per employee?
- 24 Last year a typist produced 120 letters a week for 50 weeks. The cost of supplies needed to produce one letter was \$.24. What was the total cost of the supplies used to produce these letters?

- 25 Zeigler is paid on a piece-rate basis, at the rate of \$.27 per piece. Last week he completed 572 pieces, of which 36 were rejected. What were his gross wages for the week?
- 26 Last week, Mason's gross wages amounted to \$192.40 for 37 hours worked. What was Mason's hourly wage?
- 27 Last week, the six part-time employees of a dry cleaning firm had net earnings of \$44.57, \$46.24, \$42.94, \$54.75, \$48.93, and \$40.40. What was the total amount of this payroll for last week?
- 28 A collection agent collected $\frac{3}{4}$ of an invoice of \$760, and kept 40% for his fee. How much did he return to his employer?
- 29 Bartlett borrowed \$550 from a consumer finance company and repaid the loan in 24 monthly payments of \$25.75 each. What was the amount of the finance charge on the loan?
- 30 What is the interest on \$437 for 4 months at 9%?
- 31 Lorenzo owns 50 shares of common stock. If the stock pays dividends of 75¢ per share, per quarter, what is her income from the 50 shares for one year?
- 32 Young can buy shares of stock in Bryer and Co. for $13\frac{3}{4}$. How much will 25 shares cost her if taxes and fees amount to \$37.50?
- 33 If a \$1,000 bond pays interest at the rate of $8\frac{1}{2}\%$ a year, how much money will the owner receive in interest on this bond in 15 years?
- 34 What is the exact number of days from July 7 to October 9?

Part II

Answer any 10 of the 13 questions in this part. All work must be shown in the answer booklet. Partial credit may be allowed. [40]

- 1 Oliver is now renting a house for \$475 per month. He could buy the house by making a \$15,000 downpayment and financing the rest. He estimates the total annual expense of ownership to be \$2,930 plus 12% interest lost on the downpayment. How much money would he save per year by owning the house?
- 2 Kazanjian insured a building for \$8,000 with Company X, for \$12,000 with Company Y, and for \$20,000 with Company Z. A fire damaged the building and caused a \$6,200 loss. For what amount of money will Company Z be liable?
- 3 A refrigerator is offered for \$298 less a 10% cash discount. The same refrigerator can be purchased by making a downpayment of \$29.80 and by paying the balance in 15 payments of \$17.95 each. How much can a customer save by paying cash rather than by purchasing the refrigerator on the installment plan?
- 4 Romero can purchase a living room set from the Atlantic Furniture Store for \$780, less 10%, delivered to his home. The Pacific Company offers him the same furniture for \$850, less 20%, but Romero has to pay a delivery charge of \$20. What is the amount of the difference between the two offers?
- 5 Conway wishes to compare the cost of purchasing new equipment with the cost of leasing similar equipment. The expenses of purchasing the equipment are as follows:

Payments	\$182 per month
Maintenance	30 per month
Loss of interest on his downpayment	240 per year
Insurance	377 per year

 Conway can lease similar equipment for \$243 per month. If he leases the equipment for one year, how much less will he spend?
- 6 A retailer of women's clothing bought 30 dresses for a total cost of \$540. She sold 12 dresses at \$25 each, 6 dresses at \$20 each, and the remaining dresses at \$17 each. What was her total gross profit on the dresses?
- 7 Nagel rented a car for three days at \$19.95 a day plus \$.10 per mile. He drove 504 miles and used 15 gallons of gas at \$1.25 per gallon. What was the total cost of using this car for the three days?
- 8 An office worker divides her 35-hour work week as follows: $\frac{1}{5}$ of her time handling mail, $\frac{1}{2}$ of her time typing, and $\frac{1}{10}$ of her time answering the telephone. The remaining time is devoted to filing. How many hours per week are spent filing?
- 9 The Hammond Company pays its employees on a 40-hour-per-week basis with time and a half for overtime. What were the gross earnings of Quincy, who worked 43 hours in one week at a regular hourly rate of \$4.10?
- 10 Wellington is considering three different jobs at the following salaries:

Job A	\$150 per week
Job B	\$630 per month
Job C	\$7,500 per year

 How much more per year will he earn at the highest paying job than he will earn at the lowest paying job?
- 11 Finnigan's checkbook balance on May 31 was \$265.28. An examination of her bank statement showed the following:

There was a service charge of \$3.95, a check written for \$16.88 had been entered on the check stub as \$18.68, and a deposit of \$25 had not been entered in her checkbook.

 What was Finnigan's correct checkbook balance?

12 A demand note for \$420 dated April 3 was paid on May 18 of the same year. The interest rate was 12%. What was the amount of interest?

13 Harris bought 200 shares of stock for a total cost of \$3,627. He kept the stock for two years during which time he received 8 quarterly dividends of \$.19 per share. Harris sold the shares of stock for \$2,913. What was his total loss on this investment?

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ANSWER BOOKLET

Part I Score
Part II Score
Total Score
Rater's Initials:

Student..... Teacher

School

Part I [60 credits]

Answer only 30 questions.

- | | | | |
|----------|----------|----------|----------|
| 1 _____ | 11 _____ | 21 _____ | 31 _____ |
| 2 _____ | 12 _____ | 22 _____ | 32 _____ |
| 3 _____ | 13 _____ | 23 _____ | 33 _____ |
| 4 _____ | 14 _____ | 24 _____ | 34 _____ |
| 5 _____ | 15 _____ | 25 _____ | |
| 6 _____ | 16 _____ | 26 _____ | |
| 7 _____ | 17 _____ | 27 _____ | |
| 8 _____ | 18 _____ | 28 _____ | |
| 9 _____ | 19 _____ | 29 _____ | |
| 10 _____ | 20 _____ | 30 _____ | |

Part II [40 credits]

Answer only *ten* of the thirteen questions in this part. *Be sure to write the number of the problem and the answer in the proper spaces.* All work for this part must be shown in the spaces provided.

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[2]

Part II — *continued*

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

Part II — *continued*

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[4]

Part II — *continued*

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[5]

[OVER]

Part II — *concluded*

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

[Use this space for computation.]

Problem Number: _____

Answer: _____ [4]

I do hereby affirm, at the close of this examination, that I had no unlawful knowledge of the questions or answers prior to the examination, and that I have neither given nor received assistance in answering any of the questions during the examination.

Signature

[6]

FOR TEACHERS ONLY

BUSINESS MATHEMATICS

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SCORING KEY AND RATING GUIDE

Mechanics of Rating

Note: Do not refer to the *Guide for Rating Regents Examinations and Competency Tests in Business Subjects*, (1974 edition), when rating student answer papers for this examination.

The following procedures are recommended for rating Regents examination papers in business mathematics.

- (1) Use only *red* ink or *red* pencil in rating papers. Do not correct the student's work by making insertions or changes of any kind.
- (2) For Part I, indicate by means of a checkmark (✓) each incorrect or omitted answer; do not place a checkmark beside a correct answer. The total number of credits allowed for Part I should be recorded in the appropriate space in the box on the cover of the answer booklet.
- (3) For Part II, underline written errors, indicate omissions with a caret, and circle errors in computation. Deductions should be indicated by the following symbols:
 - X for deduction of 4 credits
 - ✓ for deduction of 2 credits
 - / for deduction of 1 credit
- (4) The cumulative system of rating should be used within Part II. That is, the number of credits allowed any answer in Part II should be added to the preceding Part II total and the cumulative Part II score written at the right-hand side of the paper at the end of each answer. The total number of credits allowed for Part II should be recorded in the appropriate space in the box on the cover of the answer booklet.
- (5) Record the total examination score (the sum of the credits allowed for Parts I and II) in the appropriate space in the box on the cover of the answer booklet.
- (6) Check carefully for mechanical errors (addition, subtraction, etc.).
- (7) Write your initials clearly in the appropriate space on the cover of the answer booklet.

Part I

Allow a total of 60 credits, 2 credits for each of 30 questions. If more than 30 questions are answered, only the first 30 answered should be considered. Allow no partial credit.

No credit should be allowed for:

- Failure to express certain amounts according to business practice
Example: An invoice extension of \$31.625 should be expressed as \$31.63.
- Failure to express results as required by the statement of the question
Example: A rate of discount to be given to the nearest tenth percent should be expressed as 17.3% not as 17.256%.

(1) 407.913	(11) \$426.25	(21) 9	(31) \$150
(2) 5%	(12) \$60	(22) \$13.32	(32) \$381.25
(3) 58.03	(13) \$2,314	(23) \$8	(33) \$1,275
(4) \$466	(14) 25%	(24) \$1,440	(34) 94
(5) 35%	(15) \$49.30	(25) \$144.72	
(6) \$11.20	(16) \$700	(26) \$5.20	
(7) \$105.60	(17) \$15.59	(27) \$277.83	
(8) \$1,235,220	(18) \$.78 or 78¢	(28) \$342	
(9) \$18,668.80	(19) \$465.60	(29) \$68	
(10) \$5.25	(20) \$171	(30) \$13.11	

Part II

Allow a total of 40 credits, 4 credits for each of ten questions. If more than ten questions are answered, only the first ten answered should be considered. Partial credit may be allowed. Deductions for errors should be made as indicated below.

Deduct 4 credits for the following types of errors:

- Failure to use generally accepted business or mathematical methods in solution
- Failure to show all work which would not ordinarily be done mentally
- Two or more method errors in solution

Deduct 2 credits for the following types of errors:

- One or more computation errors in solution
- One method error in solution

Deduct 1 credit for the following types of errors:

- Each error due solely to transposed or incorrectly copied number
- Failure to express certain amounts according to business practice
- Failure to express results as required by the statement of the question. (This statement should not be interpreted to include those situations wherein a question calls for the price *each* and the student answers with the total price, or where the student rounds off too soon in a problem before the final step. These are considered method errors and should be penalized as such.)

(1) \$970

(8) 7

(2) \$3,100

(9) \$182.45

(3) \$30.85

(10) \$300

(4) \$2

(11) \$288.13

(5) \$245

(12) \$6.30

(6) \$84

(13) \$410

(7) \$129