

The University of the State of New York  
REGENTS HIGH SCHOOL EXAMINATION  
**BUSINESS MATHEMATICS**

Monday, June 21, 1982 — 1:15 to 4:15 p.m., only

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This test packet contains three separate booklets:

- (1) the examination booklet for Part I
- (2) the examination booklet for Parts II, III, and IV
- (3) the answer booklet for Parts II, III, and IV

Remove the booklet for Part I, the Rapid Calculation Test, and then put the other two booklets aside.

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**PART I—RAPID CALCULATION TEST**

Do not begin this part until the signal is given.

Scrap paper may be used. Place your answers only in the spaces provided in this booklet. At the end of 15 minutes, work must stop and this booklet must be immediately handed to the examiner. No partial credit will be allowed. (Note: All answers to questions using the metric system must be properly labeled, and all answers containing fractions must be reduced to lowest terms.)

All answers must be written with blue or black pen.

Be sure to write your name in the space below.

Pupil .....

**DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.**

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 this declaration.

Part I

RAPID CALCULATION TEST

Directions (1-18): Write the correct answer to *each* of the following in the blank space at the right of each question. *Scrap paper may be used.* [Note: All answers to questions using the metric system *must* be properly labeled, and all answers containing fractions must be reduced to *lowest* terms.] [18]

- 1 Add: 
$$\begin{array}{r} 12.88 \\ 6.90 \\ \hline 37.01 \end{array}$$
 1 .....
- 2 Subtract: 
$$\begin{array}{r} \$112.80 \\ -76.51 \\ \hline \end{array}$$
 2 ..\$ .....
- 3 Multiply: 
$$\begin{array}{r} 8.65 \\ \times 1.3 \\ \hline \end{array}$$
 3 .....
- 4 Divide: 286.44 by 1.4 4 .....
- 5 Add: 
$$\begin{array}{r} 13\frac{1}{2} \\ 19\frac{1}{3} \\ \hline 1\frac{5}{6} \end{array}$$
 5 .....
- 6 Subtract: 
$$\begin{array}{r} 632\frac{6}{7} \\ -284 \\ \hline \end{array}$$
 6 .....
- 7 Multiply 23 by  $3\frac{3}{4}$ . 7 .....
- 8 Divide  $5\frac{5}{6}$  by  $2\frac{1}{3}$ . 8 .....
- 9 Solve: 18 is what percent of 27? 9 .....
- 10 Add: 
$$\begin{array}{r} 4 \text{ km } 4 \text{ hm} \\ 3 \text{ km } 9 \text{ hm} \\ \hline \end{array}$$
 10 .....
- 11 To change kilometers to miles, you should multiply by .6.  
Convert 7.5 kilometers to miles. 11 .....
- 12 What is the exact number of days from April 21 to July 5? 12 .....

- 13 What is the cost of 1,500 articles at \$52 per C? 13 ..\$.....
- 14 Express  $\frac{3}{7}$  as a decimal to the *nearest hundredth*. 14 .....
- 15 What is the interest on \$720 for 2 months at 9%? 15 ..\$.....
- 16 What is  $5\frac{1}{2}\%$  of 160? 16 .....
- 17 What is .375 expressed as a common fraction in *lowest terms*? 17 .....
- 18 What is  $\frac{9}{22}$  of 66? 18 .....

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Parts II, III, and IV

The answers to the questions in Parts II, III, and IV of this examination are to be written in the separate answer booklet, which is inside this examination booklet. Open the examination booklet, remove the answer booklet, and then close the examination booklet. Be sure to fill in the heading of your answer booklet and sign the statement printed at the end after you have completed the examination. In recording your answers, be sure to write the number of the problem and the answer in the proper spaces.

**DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN**

Part II

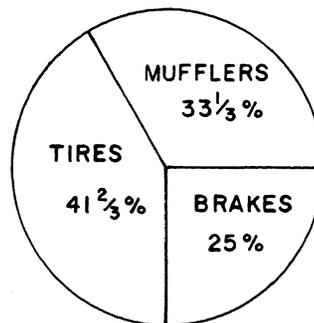
Answer any 18 of the 20 questions in this part. Scrap paper may be used. Write only your answers in the separate answer booklet. No partial credit will be allowed. [36]

- 1 Griffin earns a salary of \$600 a month, plus 4% commission on all sales. This month her sales total \$4,800. Find her earnings for the month.
- 2 A machine was purchased for \$19,200. After 30 years of use, it was sold for \$1,500. What was the average annual depreciation on this machine?
- 3 Marion buys a camera for \$280 including finance charges. She makes a downpayment of \$80 and the balance is to be paid in 8 equal monthly payments. What is the amount of each payment?
- 4 A secretary earns a salary of \$120 a week. Other allocated costs of her work station are floor area rental, \$90 per year; equipment and supplies, \$290 per year; and miscellaneous expenses of \$200 per year. Find the yearly cost of the work station.
- 5 On January 2, Smythe deposited \$500 in his savings account, which earned interest at the rate of 5% a year. If the interest is paid quarterly, how much would he have on deposit April 1?
- 6 The Colt Company received an invoice dated June 14, for \$347.50, terms 3/10, 2/20, n/30. What must be the amount of the check if payment is made on June 30?
- 7 The Marcussen Manufacturing Company distributes its overhead to each department in proportion to the space occupied by each department. Its four departments occupy the following amounts of space:
 

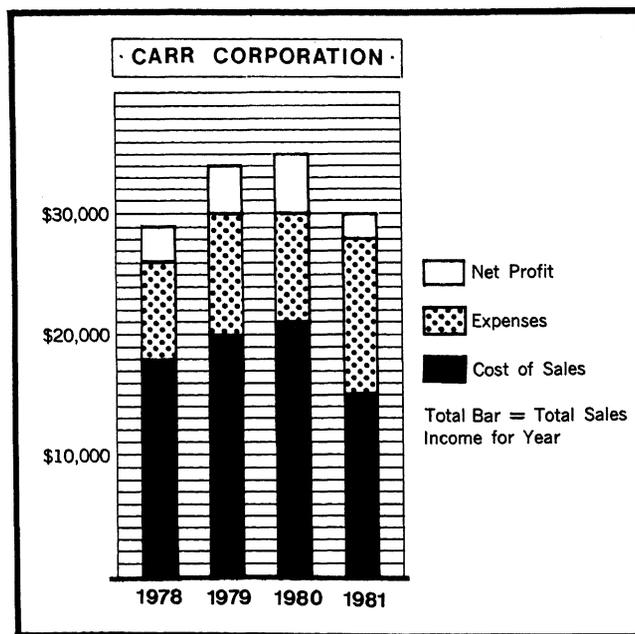
Storage .....	3,600 square feet
Maintenance.....	1,440 square feet
Cutting .....	7,200 square feet
Finishing.....	5,760 square feet

What percent of the overhead should be charged to the Finishing Department?
- 8 Company A offers merchandise with trade discounts of 40% and 10%. Company B offers similar merchandise at the same list price less 30% and 20%. Which company makes the better offer?
- 9 An order for 500 meters of hemp rope is received from a customer. If the cost of this rope is \$3.25 per meter, what is the cost of the order?

- 10 The Sounds Music Store marks the cost of each article in code. The code word SPRINGLAKE is used for numbers 1 through 0. If an item sells for \$8.95 and is marked NSG, what is the gross profit on the sale?
- 11 The circle chart below represents the income made in a repair shop from tire sales, muffler installations, and brake repairs. How much income came from muffler installations if the total income is \$720?



- 12 Greene wants to pay his taxes on time and avoid paying a penalty. He borrows \$650 for 6 months at 8 percent interest by signing a promissory note. What total amount must he pay on the date of maturity?
- 13 According to the bar graph below, what was the total net profit for the four years recorded by the Carr Corporation?



- 14 Toton borrowed money on his demand note. If he took out the loan on October 5 and repaid it on February 1, how many days interest did he have to pay?
- 15 A wall is 6 meters long. How many bookcases may be placed end-to-end along this wall if each bookcase is 75 centimeters long?
- 16 The list price of a stove is \$360.00. The stove is subject to a series of trade discounts of 20% and 10%. What is the net price of the stove?
- 17 Smith can rent a chain saw and a log splitter for a total of \$136 for a weekend. If Smith uses the saw for 7 hours and the splitter for 9 hours, what is his average hourly cost for the actual use of this equipment?
- 18 Snyder and Mackin received an invoice of goods dated May 25, for \$475 with terms of 2/10, n/30. What is the final date for payment of this invoice if they wish to obtain the discount?
- 19 The creditors of a bankrupt are being paid 18.3 cents per dollar of their claim. If Wilson, a creditor, has a claim of \$200, how much will he receive?
- 20 Lewis has budgeted \$1.65 a day for lunch. On the first four work days, he spent the following: \$1.50; \$1.65; \$1.60; and \$1.75. What amount of money may he spend for lunch on the fifth day and still stay within the sum budgeted for the week?

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### Part III

Answer any four of the five questions in this part. All work must be shown in the answer booklet. Partial credit may be allowed. [16]

- 21 Edna Carlson carries a life insurance policy for \$12,000 at an annual rate of \$25.40 per \$1,000. The insurance company issues a dividend this year amounting to \$62.10, which Edna is permitted to deduct from her annual premium. What is the net amount Edna will pay for next year's annual insurance premium?
- 22 A home was insured for \$15,000 with the National Insurance Company, for \$8,000 with the Guardian Insurance Company, and for \$9,000 with the Protective Insurance Company. How much money will the Guardian Insurance Company pay on a fire loss of \$2,640?
- 23 Brooks buys a 10-speed bicycle for \$250.00 and pays freight charges of \$18.00. How much should he charge when selling the bicycle to make a profit of 15% on the total cost?
- 24 Sawyer has calculated his taxable income as \$8,614. If his tax schedule indicates his tax to be \$630 plus 18% of all income above \$7,600, how much tax must he pay?
- 25 The cost for manufacturing one chair is: material, \$20.75; labor, \$15.95; and overhead expenses, \$19.22. What will it cost to manufacture 6 of these chairs?

#### Part IV

Answer any five of the seven questions in this part. All work must be shown in the answer booklet. Partial credit may be allowed. [30]

- 26 A piece of equipment can be purchased from Carson Equipment Company for \$20 down and 12 monthly payments of \$26.50 each. The same piece of equipment can also be purchased from Superior Equipment Company for \$28 down and 52 weekly payments of \$5.80 each. How much will the buyer save by taking advantage of the better offer?
- 27 On an assembly line, Fetco is paid 25¢ for each item she completes that is acceptable. Last week she completed the following: Monday, 117; Tuesday, 121; Wednesday, 123; Thursday, 120; and Friday, 118. During the week, 25 pieces were not accepted. What were her gross earnings for the week?
- 28 The Boulevard Television Shop purchased 6 new television sets for a total price of \$2,400 less 12½%. Transportation charges amounted to \$60. At what price should the owner sell each television set in order to make a gross profit of 30% based on the total cost?
- 29 Reynolds owns 60 shares of stock which he purchased for \$45 per share plus total brokerage fees of \$32.50. Reynolds can sell the stock for \$53 a share minus total brokerage fees of \$36.50. How much can Reynolds realize as his total gain from buying and selling this stock?
- 30 Gregg invested \$42,000 in a house which he immediately rented to Levitt for \$400 per month. Gregg kept the house for five years. All expenses for the period amounted to \$9,300. He then sold the house for \$44,000. What was his net gain from owning this property?
- 31 Bryce and Moore are partners in a hardware business. Last year the business made a net profit of \$59,266. The partnership agreement says that Bryce is to receive a weekly salary of \$200 and Moore is to receive \$150 per week. These salaries are to be paid out of net profit. The rest of the net profit is to be shared equally by the partners. What was Bryce's total share of last year's net profit?
- 32 Doris Cohen received a bank statement dated June 1 which showed a balance of \$597.97. At that time, her checkbook showed a balance of \$415.19. An inspection of her records showed the following: a check for \$43 was entered on the check stub as \$34, a deposit of \$97.45 was not entered on the check stub, checks for \$45.13, \$32.00, and \$17.20 were outstanding. Reconcile her checkbook balance with the bank statement, and give the correct checkbook balance.

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**ANSWER BOOKLET**

Part I Score . . . . .
Part II Score . . . . .
Part III Score . . . . .
Part IV Score . . . . .
<b>Total Score . . . . .</b>
<b>Rater's Initials:</b>
.....

Pupil..... Teacher.....

School .....

<b>Part II [36 credits]</b>			
<b>Answer only 18 questions.</b>			
1.....	6.....	11.....	16.....
2.....	7.....	12.....	17.....
3.....	8.....	13.....	18.....
4.....	9.....	14.....	19.....
5.....	10.....	15.....	20.....

**Part III [16 credits]**

Answer only four of the five 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]



Part IV – continued

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[Use this space for computation.]

Problem Number:.....

Answer:.....[6]

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[Use this space for computation.]

Problem Number:.....

Answer:.....[6]

[c]

Part IV – concluded

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[Use this space for computation.]

Problem Number:.....

Answer:.....[6]

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[Use this space for computation.]

Problem Number:.....

Answer:.....[6]

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.

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Signature

[d]

# FOR TEACHERS ONLY

## BM

### SCORING KEY

### BUSINESS MATHEMATICS

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Use only *red* ink or *red* pencil in rating Regents papers. Do not attempt to *correct* the pupil's work by making insertions or changes of any kind. Use checkmarks to indicate pupil errors.

Scores should be cumulated within parts of the examination and transferred to the cover of the answer booklet.

#### Part I — Rapid Calculation Test

Allow a total of 18 credits, one credit for each of the following. [Allow no partial credit.]

- |                     |                              |                            |                    |
|---------------------|------------------------------|----------------------------|--------------------|
| (1) 56.79           | (6) $348\frac{6}{7}$         | (11) 4.5 or $4\frac{1}{2}$ | (16) 8.8           |
| (2) \$36.29         | (7) $86\frac{1}{4}$ or 86.25 | (12) 75                    | (17) $\frac{3}{8}$ |
| (3) 11.245          | (8) $2\frac{1}{2}$ or 2.5    | (13) \$780                 | (18) 27            |
| (4) 204.6           | (9) $66\frac{2}{3}$          | (14) .43                   |                    |
| (5) $34\frac{2}{3}$ | *(10) 8 km 3 hm              | (15) \$10.80               |                    |

\* Deduct one credit if not properly labeled.

#### Part II

Allow credit for only 18 of the 20 questions in this part. If more than 18 questions are answered, only the first 18 answered should be considered. Allow a total of 36 credits, two credits for each correct answer. [Allow no partial credit.]

- |               |               |
|---------------|---------------|
| (1) \$792     | (11) \$240    |
| (2) \$590     | (12) \$676    |
| (3) \$25      | (13) \$14,000 |
| (4) \$6,820   | (14) 119      |
| (5) \$506.25  | (15) 8        |
| (6) \$340.55  | (16) \$259.20 |
| (7) 32%       | (17) \$8.50   |
| (8) Company A | (18) June 4   |
| (9) \$1,625   | (19) \$36.60  |
| (10) \$3.79   | (20) \$1.75   |

[OVER]

BUSINESS MATHEMATICS — *concluded*

**Part III**

Allow a total of 16 credits, 4 credits for each of four questions. If more than four questions are answered, only the first four answered should be considered. [Allow partial credit as indicated in the pamphlet entitled *Guide for Rating Regents Examinations and Competency Tests in Business Subjects* (1974 edition) as recorded under Part IV.]

(21) \$242.70

(23) \$308.20

(25) \$335.52

(22) \$660

(24) \$812.52

**Part IV**

Allow a total of 30 credits, 6 credits for each of five questions. If more than five questions are answered, only the first five answered should be considered. [Allow partial credit as indicated in the pamphlet entitled *Guide for Rating Regents Examinations and Competency Tests in Business Subjects* (1974 edition).]

(26) \$8.40

(29) \$411

(31) \$30,933

(27) \$143.50

(30) \$16,700

(32) \$503.64

(28) \$468