

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

BUSINESS MATHEMATICS

Friday, April 11, 1975—9:15 a.m. to 12:15 p.m., only

Instructions for Part I—Mental Calculation Test

Do not turn this sheet over until the signal is given.

All questions on Part I are to be worked mentally and the *answers only* placed on the back of this sheet. At the end of 15 minutes, work must stop and the answer sheet used for this part of the examination must then be immediately handed to the examiner.

Be sure to write your name in the proper space on the back of this sheet.

Do not begin work on the test until your teacher tells you to do so.

All answers must be written with pen and ink.

Scrap paper may not be used, nor may computations be made on the question paper.

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

MENTAL CALCULATION TEST

Pupil.....

Directions (1–18): Write the correct answer to *each* of the following in the blank space at the right of each question. No written computations are allowed. [18]

1 Subtract: \$94.00
 —15.72

1....\$.....

2 Add: 37.4
 7.069
 124.6
 78.473

2.....

3 How many minutes are there in 2½ hours?

3.....

4 What is 247 multiplied by 10? (2,470; 24.70; 2.47; .247)

4.....

5 At \$1.25 per bushel, what will 120 bushels cost?

5....\$.....

6 What is 46.4% expressed as a decimal?

6.....

7 What is the amount of interest on \$6,000 for 60 days at 8%?

7....\$.....

8 What is 7.46 expressed as a percent?

8.....

9 Plans for a house used a scale of ¼ inch to a foot. How long a line is needed to represent a wall 36 feet long?

9.....

10 Subtract $8\frac{5}{6}$ from 34.

10.....

11 What is ¼% of \$640? (\$2,560; \$160; \$16; \$1.60)

11....\$.....

12 Which amount is ⅓ less than 36? (12; 24; 30; 48)

12.....

13 What is the amount of interest on \$4,000 for 60 days at 9%?

13....\$.....

14 If pens are priced at \$.50 each, how many can be purchased for \$5.00? (5; 10; 20; 25)

14.....

15 What percent of 75 is 60? (125%; 80%; 25%; 20%)

15.....

16 What is .07849 expressed to the *nearest thousandth*? (.08; .078; .079; .0785)

16.....

17 18 is ⅔ of (27; 24; 12; 6).

17.....

18 What is the cost of 600 pounds at \$1.20 per cwt.?

18....\$.....

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The answers to the questions on the following parts of this examination are to be written in the separate answer booklet. Be sure to fill in the heading of your answer booklet and sign the statement printed at the end.

DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN

Part II

Answer 18 of the 20 questions in this part. Scrap paper may be used. Write only your answers in the separate answer booklet. [36]

IN RECORDING YOUR ANSWER IN THE ANSWER BOOKLET
BE SURE TO USE THE CORRECT SPACE.

1 Divide 786.4352 by 741.8, and express your answer correctly to the *nearest hundredth*.

2 A 2-month promissory note, dated May 20, was discounted at the bank on June 11. For how many days was the note discounted?

3 A contractor, in building a camp, paid the following expenses:

| | | |
|--|---------|------------------------|
| Lot | \$1,950 | |
| Real estate agent's fee | 5% | of the cost of the lot |
| Excavating | 220 | |
| Lumber and carpentry | 8,415 | |
| Painting | 825 | |
| Plumbing, heating, and electrical work | 3,312 | |
| Other expenses | 930 | |

What was the contractor's total cost for building this camp?

4 Geyer and Rice are partners in a retail furniture business. Last year, their gross profit was \$39,867.40 and their expenses were \$21,935.20. Edna Geyer received 55% of the net profit as her share for the year. What amount did she receive?

5 Betty Carlson can buy a set of office reference books on an installment plan by paying \$23.40 per month for six months. If Carlson saves \$4.75 per week for the next 26 weeks, she will be able to pay cash for the books. What amount of money will Carlson save by paying cash for the set of books?

6 Parsons bought an office calculator priced at \$224.60. The sales tax rate was 7%. What was the total cost, including sales taxes, of the calculator?

7 A desk listed at \$75 was sold with a trade discount of 12%. What was the amount of the trade discount?

8 An invoice dated September 28, has terms 2/10, n/30. What is the last day on which this invoice may be paid in order that the cash discount may be obtained?

9 Daniel Field received a bank statement indicating a balance of \$381.49. He found checks outstanding for \$5.21, \$18.90, and \$49.11. What was his correct bank balance?

10 The payroll records for Bob's Service Station are shown below.

| <u>Employee</u> | <u>Earnings</u> |
|-----------------|-----------------|
| J. Cobb | \$63.51 |
| T. Thorpe | 64.40 |
| R. Law | 66.10 |

Using the following FICA tax table, what is the total amount of tax to be deducted from *all* employees?

Social Security Employee Tax Table—

5.85 percent employee tax deductions

| Wages | | Tax to be withheld |
|----------|---------------|--------------------|
| At least | But less than | |
| 63.17 | 63.34 | 3.70 |
| 63.34 | 63.51 | 3.71 |
| 63.51 | 63.68 | 3.72 |
| 63.68 | 63.85 | 3.73 |
| 63.85 | 64.02 | 3.74 |
| 64.02 | 64.19 | 3.75 |
| 64.19 | 64.36 | 3.76 |
| 64.36 | 64.53 | 3.77 |
| 64.53 | 64.71 | 3.78 |
| 64.71 | 64.88 | 3.79 |
| 64.88 | 65.05 | 3.80 |
| 65.05 | 65.22 | 3.81 |
| 65.22 | 65.39 | 3.82 |
| 65.39 | 65.56 | 3.83 |
| 65.56 | 65.73 | 3.84 |
| 65.73 | 65.90 | 3.85 |
| 65.90 | 66.07 | 3.86 |
| 66.07 | 66.24 | 3.87 |
| 66.24 | 66.42 | 3.88 |
| 66.42 | 66.59 | 3.89 |

11 Kay Lewis paid \$42 to insure her boutique for one year against loss by fire. After one month, Lewis canceled the fire insurance. The insurance company returned 81% of the premium. What amount of money was returned to Lewis?

12 Bert Howard has his building insured for \$4,000 with the Empire Insurance Company, for \$6,000 with the Capital Insurance Company, and for \$8,000 with the Mutual Insurance Company. If a fire causes a loss of \$3,600, what amount of money should the Mutual Insurance Company pay?

- 13 Omar has received six quarterly dividends of 30¢ per share on 1,200 shares of Acme Corporation stock. What total amount of money has Omar received as dividends?
- 14 Johanna Byrne works in a factory on a piecework basis. Her weekly pay rates are as follows:
- | | |
|------------------------|-------------|
| The first 50 pieces at | \$1.00 each |
| The next 25 pieces at | 1.08 each |
| The next 15 pieces at | 1.20 each |
| On all pieces over 90 | 1.35 each |
- During one week she turned out a total of 100 pieces. How much did she earn that week?
- 15 Store equipment costing \$860 was purchased 7 years ago. The present trade-in value of this equipment is \$314. What is the amount of average annual depreciation on this equipment?
- 16 What is the due date for a 3-month note dated April 16?
- 17 This year the sales of a business are \$56,000,000. Last year the sales were \$70,000,000. What was the percent of decrease in the sales?
- 18 Hamilton received a trade discount of \$9 on a bookcase that originally listed at \$72. What percent of trade discount was allowed?
- 19 Using the code phrase WINTER LUCK with an X for repeating numbers, indicate the markings on a shirt which costs \$3.35.
- 20 Jack Averill purchased 50 shares of stock at \$28 per share. The commission and other expenses on this purchase totaled \$26.15. What was the total cost of this stock?
-

Part III

This part consists of five groups of questions. Choose four of these five groups. Be sure to answer all questions in each group chosen. Use scrap paper for your work. Write only your answers on the separate answer sheet. [16]

Group 1

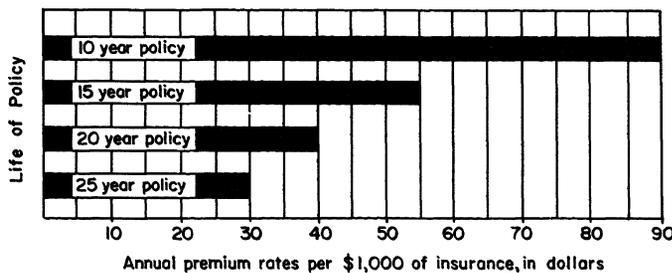
Directions (21–22): Base your answers to questions 21 and 22 on the information below.

The members of a high school class sold magazine subscriptions to raise money for class activities. They received a commission of 30% on all sales.

- 21 If they sold \$14,800 worth of magazine subscriptions, how much money would they receive as commission? [2]
- 22 In order to receive a commission of \$5,100, what must their total sales be? [2]

Group 2

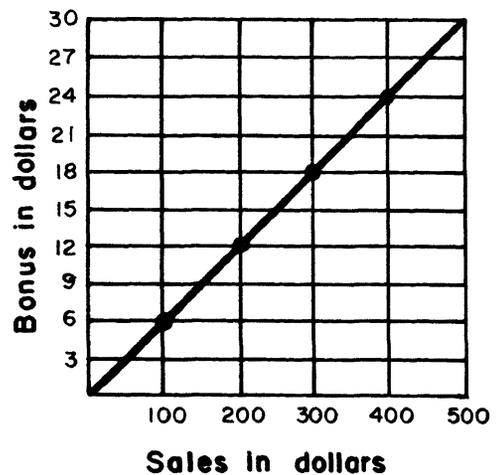
Directions (23–24): Base your answers to questions 23 and 24 on the graph below which shows the comparative annual rates per \$1,000 for endowment life insurance policies.



- 23 The annual premium on a 10-year endowment policy is how many times as much as a 25-year endowment policy? [2]
- 24 What would be the annual premium on a \$5,000, 15-year endowment policy? [2]

Group 3

Directions (25–27): Base your answers to questions 25 through 27 on the graph below which shows the amount of bonus paid to salespeople based on weekly sales.



- 25 What amount of bonus is earned on sales of \$100 in one week? [1]
- 26 What is the rate of bonus expressed as a percent? [1]
- 27 What were the total weekly earnings of a salesperson who receives a regular salary of \$68 per week and has sales amounting to \$300? [2]

Group 4

Directions (28–29): Base your answers to questions 28 and 29 on the information below.

During the first two weeks in June, Henry Weaver worked the following hours:

49½ hours the first week
40 hours the second week

He received a regular pay rate of \$2.00 an hour with time-and-a-half for all time worked over 40 hours each week.

- 28 How much money did he earn for the first week? [2]
- 29 FICA tax at the rate of 5.85% is deducted from his gross wages each week. What amount of money should have been deducted from his gross wages for FICA tax for the second week? [2]

Group 5

Directions (30–31): Base your answers to questions 30 and 31 on the information below.

Smith can buy an electric motor from one dealer at \$90 less 20% trade discount. Another wholesaler offers the same motor at a list price of \$90, but would sell it to Smith for \$63.

- 30 What amount of money would this motor cost Smith if he took the first offer? [2]
- 31 What percent of trade discount is being given in the second offer? [2]
-

 **GO RIGHT ON TO THE NEXT PAGE.**

Part IV

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

- 32 The South American Banana Company can buy 2,000 pounds of bananas for \$120. Freight and sorting cost \$40 and insurance amounts to \$20. If the company wishes to make a gross profit of $33\frac{1}{3}\%$ based on the total cost, what should be the selling price *per pound* of the bananas?
- 33 During last year, the partnership of Jones and Smith made a profit of \$25,000. The partnership agreement provides that each partner receives an annual salary of \$10,000, and that any remaining profit be divided so that Jones receives 40% and Smith 60%. How much money, including salary, did Jones receive as his total share of the profit for last year?
- 34 A firm pays its salespeople a monthly salary of \$200 and a commission on sales each month as follows: 10% on all sales up to and including \$1,200, and 15% on all sales above that amount. One of the salespeople sold goods amounting to \$1,800 for the month of April. What was the salesperson's total income for the month?
- 35 The cash price for certain goods is \$600. These goods can be bought on the installment plan as follows: a downpayment of 15% of the cash price is made; to the remaining balance, a carrying charge of 12% of this balance is added; and the total balance is then paid in equal monthly installments of \$28.56 each. How many months will it take to pay for the \$600 worth of goods on this installment plan?
- 36 On September 30, William Kade's checkbook balance was \$7,202.93. On the same date, his bank statement showed a balance of \$7,896.23. The following checks were outstanding: \$123.50; \$87.45; \$209.60; \$184.40; \$414.55. A deposit for \$325 that had been mailed to the bank on September 29 did not appear on the bank statement. The bank had made a service charge of \$1.20 for September. Prepare a reconciliation statement and indicate Kade's correct available bank or checkbook balance.
- 37 Burns owns a house worth \$24,000, which is assessed for $62\frac{1}{2}\%$ of its actual value. If the local real estate tax rate is \$83.17 per \$1,000 of assessed valuation, what amount of money should she pay in real estate taxes?
- 38 Madden owns a building valued at \$48,000 estimated to depreciate in value at the annual rate of 2%. He owns a car costing \$3,250 estimated to have a trade-in value of \$400 after five years of use. What is the *total* annual depreciation of the building and car?

FOR TEACHERS ONLY

BM

SCORING KEY

BUSINESS MATHEMATICS

Friday, April 11, 1975 — 9:15 a.m. to 12:15 p.m., only

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.

Before the start of the examination period, distribute Part I, face up, to each pupil. When each pupil has received a copy, instruct the pupils to begin work on Part I. At the end of 15 minutes the signal to stop should be given and the answer papers collected.

While the pupils are working on Part I, distribute one answer booklet to each pupil. When the answer papers for Part I are being collected, have the pupils fill out the heading on the answer booklet. Remind the pupils to sign the declaration printed at the end of the answer booklet when they have finished the examination.

Then distribute one examination booklet for the remaining sections of the examination, face up, to each pupil. When each pupil has received a booklet, instruct the pupils to open their examination booklets and begin work.

Part I — Mental Calculation Test

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

- | | | | |
|-------------|---------------------------|-------------|-------------|
| (1) \$78.28 | (6) .464 | (11) \$1.60 | (16) .078 |
| (2) 247.542 | (7) \$80 | (12) 24 | (17) 27 |
| (3) 150 | (8) 746% | (13) \$60 | (18) \$7.20 |
| (4) 2,470 | (9) $4\frac{1}{2}$ or 4.5 | (14) 10 | |
| (5) \$150 | (10) $25\frac{1}{8}$ | (15) 80% | |

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) 1.06 | (11) \$34.02 |
| (2) 39 | (12) \$1,600 |
| (3) \$15,749.50 | (13) \$2,160 |
| (4) \$9,862.71 | (14) \$108.50 |
| (5) \$16.90 | (15) \$78 |
| (6) \$240.32 | (16) July 16 |
| (7) \$9 | (17) 20% |
| (8) October 8 | (18) $12\frac{1}{2}\%$ or 12.5% |
| (9) \$308.27 | (19) <i>NXE</i> |
| (10) \$11.36 | (20) \$1,426.15 |

[OVER]

BUSINESS MATHEMATICS — *concluded*

Part III

Allow a total of 16 credits, 4 credits for each of four groups. If more than four groups are answered, only the first four answered should be considered. [Allow no partial credit for any one question.]

Group 1

- (21) \$4,440 [2]
(22) \$17,000 [2]

Group 4

- (28) \$108.50 [2]
(29) \$4.68 [2]

Group 2

- (23) 3 [2]
(24) \$275 [2]

Group 5

- (30) \$72 [2]
(31) 30% [2]

Group 3

- (25) \$6 [1]
(26) 6% [1]
(27) \$86 [2]

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 1974 edition of "Guide for Rating Regents Examinations and Competency Tests in Business Subjects."]

- (32) 12¢
(33) \$12,000
(34) \$410
(35) 20

- (36) \$7,201.73
(37) \$1,247.55
(38) \$1,530