

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

# BUSINESS ARITHMETIC

Monday, June 17, 1974—1:15 to 4:15 p.m., only

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.

**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 Sharon Wilson sold her home for \$38,500. Her real estate agent charged a commission of 6%. What amount of money did the agent earn as commission on this sale?
- 2 Mr. Wicker purchased a radio and tape recorder set for \$600. He agreed to pay 25% of the cost immediately and the balance in 15 equal monthly installments. What should be the amount of each monthly installment?
- 3 Add: 24.7; 36.035; 2.875; 128.8; 92.675; 71.924; 421.1
- 4 A retailer rents a warehouse in which he stores furniture. If his stock is worth \$16,500 and he insures it at an annual rate of \$.45 per \$100, what is his premium on this stock for one year?
- 5 What is the date of maturity of a 90-day note dated March 29?
- 6 Gretchen Sparks has been working a 40-hour week at a regular pay rate of \$3.15 an hour. What would her hourly rate need to be for her to receive the same weekly wages if she works a 35-hour week?
- 7 Multiply 47.4 by 83.5 and divide the product by 15.
- 8 A newspaper advertised that the total cost of an article would be \$686.40 if payments were made weekly over a 3-year period. What would be the amount of each weekly payment during the 3 years?
- 9 The treasurer of the senior class in a certain high school reported ticket sales for the annual senior play as follows: 328 reserved seat tickets at \$1.25 each; and 656 general admission tickets at \$.95 each. What was the total income received from the sale of tickets?
- 10 Peg Carlson bought a set of drums for \$600. One year later she was allowed only \$270 for it on a trade-in. What was the amount of *average monthly* depreciation on the drums?
- 11 Briar owns property which is assessed for tax purposes at 50% of its actual value. Briar's house is worth \$24,000, and the local tax rate is \$39.42 per \$1,000 of assessed valuation. What amount of money does he pay in property taxes?
- 12 Elizabeth Peters can buy a home for \$24,000. If she can get a mortgage for 80% of the value of the property, what amount of money will Peters need for a downpayment?
- 13 A hardware merchant obtained a cash discount on an invoice for \$840. If his check for this invoice was \$823.20, what was the percent of cash discount that he received?
- 14 Henry Plumbing Company can purchase a water heater from the General Plumbing Corporation for \$92 less a trade discount of 40%. Oxford Heating offers a similar water heater for \$81 less 33 $\frac{1}{3}$ %. How much money would be saved by taking advantage of the better price?
- 15 A retailer received an invoice dated September 22 amounting to \$315, terms 5/10, 3/20, N/60. What amount of money was needed to pay this invoice on October 1?
- 16 The following information is taken from Wright's checkbook stubs for April:
 

April 1 Balance . . .	\$92.60
April 14 Deposit . . .	\$45.20
April 1-30 Checks written . . . . .	\$ 9.22; \$3.44; \$18.50; \$5.96

The bank charges Wright 15 cents for each check written.

What is Wright's checkbook balance on April 30?
- 17 Smith invested \$27,000 and Weston invested \$54,000 in a partnership. They agreed to share profits and losses in proportion to their original investments. What amount of money should Smith receive as his share if a net profit of \$36,000 was made last year?
- 18 What is the interest on \$1,920 for 140 days at 6%?

19 Castle holds 14 Morgan Corporation bonds, par value \$1,000 each, which pay interest at the annual rate of  $8\frac{1}{2}\%$ . If Castle receives interest payments on these bonds semiannually, what is the amount of his interest check every six months?

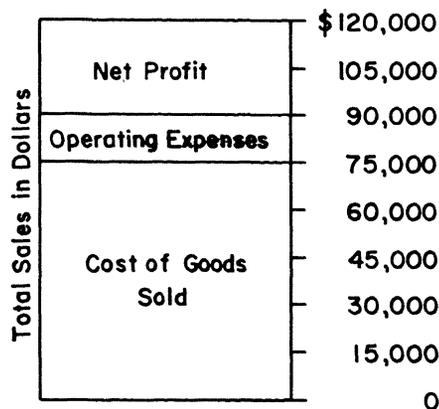
20 Kathy Roth can take advantage of a \$16.25 cash discount by borrowing \$436 for 60 days at 9%. What net amount of money will Roth actually save by borrowing?

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* (21–23): Base your answers to questions 21 through 23 on the distribution graph below which shows an analysis of total sales of the Jones Market for the year 1973:



21 What was the amount of gross profit? [1]

22 What was the amount of net profit for the year? [1]

23 The cost of goods sold is what percent of total sales? [2]

GO RIGHT ON TO THE NEXT PAGE.

**Group 2**

*Directions (24–26):* Base your answers to questions 24 through 26 on the chart below. This chart shows the amount of federal income tax to be withheld from the weekly paychecks of married persons.

**MARRIED Persons — WEEKLY Payroll Period**

And the wages are—		And the number of withholding exemptions claimed is—										
At least	But less than	0	1	2	3	4	5	6	7	8	9	10 or more
The amount of income tax to be withheld shall be—												
\$100	\$105	\$13.10	\$11.10	\$9.10	\$7.00	\$4.80	\$2.80	\$1.00	\$0	\$0	\$0	\$0
105	110	13.90	11.90	9.90	7.80	5.70	3.60	1.70	0	0	0	0
110	115	14.70	12.70	10.70	8.70	6.50	4.40	2.40	.70	0	0	0
115	120	15.50	13.50	11.50	9.50	7.40	5.30	3.10	1.40	0	0	0
120	125	16.30	14.30	12.30	10.30	8.20	6.10	4.00	2.10	.30	0	0
125	130	17.10	15.10	13.10	11.10	9.10	7.00	4.80	2.80	1.00	0	0
130	135	17.90	15.90	13.90	11.90	9.90	7.80	5.70	3.60	1.70	0	0
135	140	18.70	16.70	14.70	12.70	10.70	8.70	6.50	4.40	2.40	.70	0
140	145	19.50	17.50	15.50	13.50	11.50	9.50	7.40	5.30	3.10	1.40	0
145	150	20.30	18.30	16.30	14.30	12.30	10.30	8.20	6.10	4.00	2.10	.30

24 Peters has a wife and 4 dependent children, (6 exemptions). He earns \$125 a week. What amount of money is withheld from his weekly paycheck for federal income tax? [1]

26 Sunburry earns \$6,240 a year. He has a wife and 2 dependent children. What amount of money is withheld from his weekly paycheck for federal income tax? [2]

25 Jenkins makes \$132 a week. He has a wife and 3 dependent children. What amount of money is withheld from his weekly paycheck for federal income tax? [1]

**Group 3**

*Directions (27–28):* Base your answers to questions 27 and 28 on the information below.

On June 1, Kay White's checkbook balance was \$1,440.38. Her bank statement on that date showed a balance of \$1,871.28. Checks for \$28.50, \$212.75, and \$79.25 were outstanding. White discovered that a deposit of \$110.40 had not been entered in the checkbook.

27 What was the total of the outstanding checks? [2]

28 What was White's correct checkbook balance assuming there was no service charge? [2]

**Group 4**

*Directions (29–30):* Base your answers to questions 29 and 30 on the information below.

Thompson works at the Bundy Factory on a piecework basis. During the previous week, he completed the following number of pieces:

	M	T	W	T	F
Pieces	140	130	145	135	120

29 If Thompson earns 30¢ for each piece completed, what was the total amount of his gross earnings last week? [2]

30 What average number of pieces did Thompson complete per day? [2]

**Group 5**

*Directions* (31–32): Base your answers to questions 31 and 32 on the following information.

Carol Best can buy a television set for \$240 cash, or on the installment plan for a total cost of \$265.95 by paying \$57.95 down with weekly payments of \$4.

- 31 If Best uses the installment plan, how many weeks will it take her to complete paying for this television set? [2]
- 32 If Best borrows the entire cash price from a bank, she will have to pay \$14.40 interest per year. What amount of money will she save by choosing the less expensive of the two methods, the installment plan or borrowing from the bank? [2]

**Part IV**

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

- 33 Tucker is employed as a painter on an 8-hour-per-day basis, plus time-and-one-half for any time over 8 hours a day. His regular pay rate is \$4.60 an hour. Last week he worked as follows: Monday, 8 hours; Tuesday, 9 hours; Wednesday, 6 hours; Thursday, 10 hours; Friday, 8 hours. If the total deductions from his earnings were \$46.50 for the week, what was the amount of his net (take-home) pay?
- 34 The owner of a ski shop is able to buy ski jackets for \$324 a dozen. If he expects to make a gross profit of  $33\frac{1}{3}\%$  on the cost, at what price must the owner sell *each* jacket?
- 35 At the end of the month a salesman was entitled to the following compensation:
- |                     |                                  |
|---------------------|----------------------------------|
| Monthly Salary..... | \$400                            |
| Commission.....     | 5% of sales in excess of \$5,000 |
| Travel.....         | 3,200 miles @ 9¢ per mile        |
| Food & Lodging..... | \$270.40                         |
- His total sales for the month were \$11,000. What was the total amount the salesman's employer owed him for all expenses, salary, and commission?
- 36 A price tag on a used car reads \$900. This car can be bought on the installment plan for \$300 down and 12 equal monthly payments of \$57. If the buyer has enough cash for the downpayment and can borrow the remaining \$600 from his bank at 8% for the 12 months, what amount of money will he save by borrowing from the bank and paying cash?
- 37 Judy Roberts bought 65 shares of stock in the Vermont National Corporation at a total cost of \$2,616.25, including brokerage and other expenses. During the time she held the stock, she received a dividend of \$3.60 per share. She sold the stock for \$2,348.65 after brokerage and taxes had been deducted. What was the amount of her net loss on this transaction?
- 38 Carter received a \$300 90-day, noninterest-bearing note dated April 2 from a customer. If Carter discounted the note on May 2 at 6% at his bank, what was the amount of money received as net proceeds?
- 39 Linda Horton is paying \$160 a month to rent a cottage which she could buy for \$15,400 cash if she wished. She estimates that if she buys the cottage, the annual expenses will be as follows:
- |             |                  |
|-------------|------------------|
| \$536 ..... | Taxes            |
| \$150 ..... | Repairs          |
| \$ 80 ..... | Insurance        |
| \$100 ..... | Depreciation     |
| \$924 ..... | Loss of interest |
- What amount of money would she save annually by owning the cottage instead of renting it?

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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.

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 Which fraction is less than  $\frac{1}{12}$ ? ( $\frac{1}{8}$ ,  $\frac{1}{10}$ ,  $\frac{1}{16}$ ,  $\frac{5}{8}$ ) 1.....
- 2 A book listed at \$5.00 is sold for \$3.00. What is the rate of discount? (80%, 60%, 40%, 20%) 2.....
- 3 An invoice amounting to \$508 with terms of 1/15, N/30 was dated July 22. It was paid on August 6. What was the amount of the cash discount? 3....\$......
- 4 A decimal tax rate of \$.029, expressed as a rate per \$1,000, is (\$.29; \$2.90; \$29.00; \$290.00). 4....\$......
- 5 How much is a 6% sales tax on an automobile selling for \$4,000? 5....\$......
- 6 What will 1,000 pounds of grain cost, at \$36 per ton? 6....\$......
- 7 What is the amount of interest on \$800. for 60 days at 9%? 7....\$......
- 8 What is  $\frac{1}{2}\%$  of \$300? 8....\$......
- 9 What is 44 increased by 25% of itself? (11; 33; 55; 174) 9.....
- 10 What is  $\frac{1}{8}$  expressed in *decimal form*? 10.....
- 11 Subtract: 
$$\begin{array}{r} 168\frac{7}{8} \\ -53 \\ \hline \end{array}$$
 11.....
- 12 What is 63.20 divided by 100? 12.....
- 13 What is the cost of 80 bushels of tomatoes at 75¢ per bushel? 13....\$......
- 14 What amount is approximately 7% of 3,160? (45; 220; 450; 22,000) 14.....
- 15 What is the cost of 4,500 coat hangers at \$6.00 per M? 15....\$......
- 16 What is the cost of 66 feet of material at  $16\frac{2}{3}\phi$  a foot? 16....\$......
- 17 What is the cost of 220 items at \$1.50 each? 17....\$......
- 18 What is .625 expressed as a common fraction in its *lowest terms*?  

$$\left( \frac{.625}{1,000}; \frac{125}{200}; \frac{5}{6}; \frac{5}{8} \right)$$
 18.....

# FOR TEACHERS ONLY

# BA

## SCORING KEY

### BUSINESS ARITHMETIC

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Use only *red* ink or 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.

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) $\frac{1}{16}$ | (6) \$18                      | (11) $115\frac{1}{8}$ | (16) \$11          |
| (2) 40%            | (7) \$12                      | (12) .632             | (17) \$330         |
| (3) \$5.08         | (8) \$1.50                    | (13) \$60             | (18) $\frac{5}{8}$ |
| (4) \$29.00        | (9) 55                        | (14) 220              |                    |
| (5) \$240.00       | (10) .125 or $.12\frac{1}{2}$ | (15) \$27             |                    |

#### 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) \$2,310    | (11) \$473.04 |
| (2) \$30       | (12) \$4,800  |
| (3) 778.109    | (13) 2%       |
| (4) \$74.25    | (14) \$1.20   |
| (5) June 27    | (15) \$299.25 |
| (6) \$3.60     | (16) \$100.08 |
| (7) 263.86     | (17) \$12,000 |
| (8) \$4.40     | (18) \$44.80  |
| (9) \$1,033.20 | (19) \$595.00 |
| (10) \$27.50   | (20) \$9.71   |

[OVER]

**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.]

- |                                 |     |                |     |
|---------------------------------|-----|----------------|-----|
| <b>Group 1</b>                  |     | <b>Group 4</b> |     |
| (21) \$45,000                   | [1] | (29) \$201     | [2] |
| (22) \$30,000                   | [1] | (30) 134       | [2] |
| (23) $62\frac{1}{2}\%$ or 62.5% | [2] |                |     |
| <b>Group 2</b>                  |     | <b>Group 5</b> |     |
| (24) \$4.80                     | [1] | (31) 52        | [2] |
| (25) \$7.80                     | [1] | (32) \$11.55   | [2] |
| (26) \$8.20                     | [2] |                |     |
| <b>Group 3</b>                  |     |                |     |
| (27) \$320.50                   | [2] |                |     |
| (28) \$1,550.78                 | [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 pamphlet entitled *Suggestions for the Rating of Regents Examination Papers in Business Subjects.*]

- |                 |              |
|-----------------|--------------|
| (33) \$149.00   | (37) \$33.60 |
| (34) \$36       | (38) \$297   |
| (35) \$1,258.40 | (39) \$130   |
| (36) \$36       |              |

**DO YOU KNOW —**

. . . that you can help prepare Regents examinations? You can do so by completing the Regents Examination Evaluation Form that is enclosed in each Regents examination envelope.

Classroom teachers returned almost 5,000 Regents Examination Evaluation Forms to the Education Department following last June's Regents examinations. Their comments were carefully reviewed by the Department subject-matter and testing specialists and the committees of teachers who prepared this year's examinations.

Remember, your comments are important! Be sure to complete the Evaluation Form and give it to your principal for return in the Regents box.