

The University of the State of New York

321ST HIGH SCHOOL EXAMINATION

**BUSINESS ARITHMETIC**

Monday, June 21, 1954—9.15 a. m. to 12.15 p. m., only

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Fill in the following lines:

Name of pupil.....Name of school.....

**Instructions for Part I**

*Do not open this sheet until the signal is given.*

All parts of the rapid calculation test are to be worked mentally and the *answers only* placed on the question paper. At the end of 15 minutes, work must stop and the sheet used for this part of the examination must then be detached from the rest of the question paper and immediately handed to the examiner.

**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

RAPID CALCULATION TEST

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1-2 a Make the following extensions: [5]

400 yards at \$1.50 per yard = \$ \_\_\_\_\_

360 bushels at  $8\frac{1}{3}$  cents per bushel = \$ \_\_\_\_\_

25 pounds at 96 cents per pound = \$ \_\_\_\_\_

5000 pounds at \$8 per ton = \$ \_\_\_\_\_

64 quarts at  $12\frac{1}{2}$  cents per gallon = \$ \_\_\_\_\_

b Compute the interest: [5]

\$486.50 for 60 days at 6% = \$ \_\_\_\_\_

\$750 for 12 days at 2% = \$ \_\_\_\_\_

\$560 for 75 days at 3% = \$ \_\_\_\_\_

\$1800 for 40 days at  $1\frac{1}{2}$ % = \$ \_\_\_\_\_

\$60 for 87 days at 6% = \$ \_\_\_\_\_

c Underscore the correct answer for each of the following problems: [6]

125% of \$24 is (\$6; \$24; \$30; \$54).

$\frac{1}{4}$ % of \$840 is (\$210; \$21; \$2.10; \$.21).

If an article originally marked at \$36 is sold for \$24, the per cent of discount given is ( $33\frac{1}{3}$ %; 50%;  $66\frac{2}{3}$ %; 75%).

At 25 cents per pound, a person can buy (7; 14; 28; 112) pounds for \$28.

287.57 divided by 1000 is (28.757; 2.8757; .28757; .028757).

78.63% expressed as a decimal to the *nearest hundredth* is (.79; .7863; 7.86; 78.60).

d Complete the following table of school enrollment: [No partial credit] [4]

	Boys	Girls	Totals
<i>Elementary School</i>	646	597	
<i>Junior High School</i>	212	190	
<i>Senior High School</i>	385	402	
<i>Totals</i>			

# BUSINESS ARITHMETIC

Monday, June 21, 1954

Write at top of first page of answer paper (a) name of school where you have studied, (b) number of weeks and recitations a week in business arithmetic.

The time requirement is four or five recitations a week for a school year.

Answer questions 1-2 in Part I, four questions from Part II, four questions from Part III and four questions from Part IV. Unless otherwise stated, all operations except mental ones are to be shown written in ink. Practical business methods must be used in solutions.

Part I, 1-2 Rapid calculation test on attached sheet. [20]

## Part II

Answer any four questions from this part.

3 Answer all parts of this question. [Two credits for each correct answer; no partial credit. ALL WORK MUST BE SHOWN.] [10]

- a On April 16, Hardy discounted at the bank a 3-months promissory note dated March 25. For how many days did the bank charge him discount?
- b On July 27, Thompson bought goods on terms of  $\frac{5}{10}, \frac{2}{30}, N/60$ . What is the last date on which he can make payment for these goods, if he wishes to earn the largest possible cash discount?
- c Lawson insured his house for 3 years for \$12,000. The rate for the entire 3-year policy was 65 cents per \$100. What was the average annual cost of this policy to Lawson?
- d Thorpe is employed on a 40-hour-per-week basis with time-and-a-half for overtime. His regular pay rate is \$1.60 per hour. During a recent week he worked 47 hours. What was the amount of Thorpe's total earnings for that week?
- e A student obtained marks of 87, 90, 98 and 82 on four tests given recently. What mark must he obtain on his fifth test in order to have an average mark of 90 for all five tests?

4 Answer all parts of this question. [This is an accuracy test. One credit for each correct answer; no partial credit; no credit allowed unless work is shown. Wherever necessary, reduce the answer to simplest form.] [10]

- a Add: 85.09; 641.7; 3.009; 42.86
- b Subtract 387.29 from 405.8
- c Multiply 47.1 by 3.8
- d Divide 162.97 by 37.9
- e Add:  $5\frac{7}{8}$ ;  $8\frac{3}{4}$ ;  $1\frac{1}{8}$ ;  $12\frac{5}{8}$
- f Subtract  $9\frac{7}{8}$  from  $16\frac{3}{4}$
- g Multiply  $5\frac{1}{3}$  by  $1\frac{1}{2}$
- h Divide  $18\frac{3}{4}$  by  $1\frac{3}{8}$
- i Express 2.484 as a mixed number in simplest form.
- j Change 5 yards, 1 foot, 7 inches to inches.

5 Using the title and information given below, prepare a bar graph showing the following facts: [To the teacher: Deduct one credit for each error or omission.] [10]

### AVERAGE DAILY TEMPERATURES

April 4-April 10, 1954

Sunday	45°
Monday	40°
Tuesday	30°
Wednesday	42°
Thursday	38°
Friday	47°
Saturday	44°

6 Holden, a rug dealer, bought 125 rugs at \$48 each, less  $12\frac{1}{2}\%$  discount. He sold 80 of these rugs at \$60 each, 25 at \$50 each, and the remainder at \$45 each. His operating expenses in connection with this transaction amounted to 10% of his sales. What average net profit per rug did Holden gain on the entire transaction? [10]\*

BUSINESS ARITHMETIC — *concluded*

7 On June 1, 1954, Hawley's checkbook showed a balance of \$296.12. His bank statement balance on the same date was \$416.87. A slip enclosed with the cancelled checks showed that Hawley's account had been charged \$37.50 for a United States Savings Bond purchased for him by the bank. Checks outstanding were for \$75.00; \$36.50; \$5.80. In addition, Hawley discovered that a deposit for \$40.95, made the previous week, had been omitted from the checkbook by error. Prepare a reconciliation statement and indicate the correct available checkbook or bank balance. [10]\*

Part III

Answer any four questions from this part.

8 Calvin purchased an air conditioner for \$480, less  $16\frac{2}{3}\%$ . He estimated that this appliance could be used for 10 years, after which it would have a trade-in value of \$120. What would be the estimated value of this air conditioner after three years of use? [6]\*

9 The total amount of money needed for the expenses of a certain city in a recent year was \$639,200. Of this, \$11,900 would be received from fines, licenses, etc., and the remainder from real estate taxes. The total assessed valuation of all taxable real estate in the city was \$18,450,000. What tax rate, expressed in dollars per \$1000, should be levied in order to raise the necessary funds? [6]\*

10 Allen purchased 60 shares of a certain stock at \$29.50 per share. Brokerage and other expenses for the entire transaction amounted to \$30. He kept this stock one year, during which time it paid an annual dividend of 3% on a par value of \$50 per share. What actual per cent of return did Allen receive on his total investment? [6]\*

11 Winston's weekly wages for a four-week period in March, 1953 were \$65.10; \$59.00; \$64.60; and \$67.30. His weekly wages for a corresponding four-week period in March, 1954 were \$70.29; \$68.50; \$65.84; and \$66.73. What was the per cent of increase in his wages for March, 1954 as compared to his wages for March, 1953? [6]\*

12 Whitman is offered a series of discounts of 40% and 10% on goods he is considering buying from the Black Manufacturing Company. He is also offered a series of discounts of 30% and 20% on the same type and quantity of goods at the same list price, from the Green Supply Company. What per cent of discount will he save by taking the better of these two offers? [6]\*

Part IV

Answer any four questions from this part.

13 Keefe and Doremus are partners in a wholesale business, with investments of \$22,500 and \$7500 respectively. Profits and losses are shared in proportion to the partners' investments. Last year the firm made a net profit of \$8472. What amount did each partner receive as his share of this profit? [4]\*

14 Whitehead paid \$16.83 for a set of dishes. This price included a 2% sales tax, which was based on the original marked price. What was the original marked price of this set of dishes? [4]\*

15 Coleman, a salesman, is paid a commission of 10% on all sales, and an additional commission of 4% on all sales in excess of \$800 per week. Last week Coleman's sales amounted to \$1150. What were his total earnings for that week? [4]\*

16 Parker can buy a set of living-room furniture for \$275 cash. If he buys this set of furniture on the installment plan, he must make a down-payment of \$125 and 12 monthly installments of \$15 each. By what per cent does the installment price exceed the cash price, to the *nearest tenth of a per cent*? [4]\*

17 Hulbert has been buying lamps at a cost of \$16, and selling them for \$20. The price which Hulbert pays for these lamps was recently increased to \$18. At what price per lamp must he sell them in the future in order to continue making the same per cent of gain on their cost? [4]\*

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\* *To the teacher:* One half the number of credits should be deducted for each different error in method. [No credit should be allowed for a solution that contains an error in method and an error in computation.]