

The University of the State of New York

325TH HIGH SCHOOL EXAMINATION

**BUSINESS ARITHMETIC**

Wednesday, August 24, 1955 — 8.30 to 11.30 a.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

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

120 gallons at  $33\frac{1}{3}\phi$  per gallon = \$\_\_\_\_\_

280 bushels at  $75\phi$  per bushel = \$\_\_\_\_\_

80 feet at  $35\phi$  per foot = \$\_\_\_\_\_

1500 pounds at \$40 per M = \$\_\_\_\_\_

160 quarts at  $25\phi$  per gallon = \$\_\_\_\_\_

b Compute the interest: [5]

\$2700 for 60 days at 2% = \$\_\_\_\_\_

\$4897 for 6 days at 6% = \$\_\_\_\_\_

\$3600 for 30 days at 1% = \$\_\_\_\_\_

\$560 for 15 days at 3% = \$\_\_\_\_\_

\$90 for 218 days at 6% = \$\_\_\_\_\_

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

$\frac{1}{2}\%$  of \$720 is (\$360; \$14.40; \$7.20; \$3.60).

976.4 divided by 100 is (9764; 97.64; 9.764; .9764).

$16\frac{2}{3}\%$  more than 480 is (560; 400; 160; 80).

If an article marked at \$48 is sold for \$40, the per cent of discount given is ( $83\frac{1}{3}\%$ ; 25%; 20%;  $16\frac{2}{3}\%$ ).

.68 expressed as a fraction in simplest form is ( $\frac{68}{100}$ ;  $\frac{68}{1000}$ ;  $\frac{34}{50}$ ;  $\frac{17}{25}$ ).

125% of 60 is (15; 48; 75; 90).

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

<i>Type of School</i>	<i>Boys</i>	<i>Girls</i>	<i>Totals</i>
Elementary	596	577	
Junior high	319	294	
Senior high	678	693	
<i>Totals</i>			

# BUSINESS ARITHMETIC

Wednesday, August 24, 1955 — 8.30 to 11.30 a.m., only

Write at top of first page of answer paper (a) names of schools where you have studied, (b) number of weeks and recitations a week in business arithmetic previous to entering summer high school, (c) number of recitations in this subject attended in summer high school of 1955 or number and length in minutes of lessons taken in the summer of 1955 under a tutor licensed in the subject and supervised by the principal of the school you last attended.

The time requirement is four or five recitations a week for a school year. The summer school session in business arithmetic will be considered the equivalent of one semester's work during the regular session (four or five recitations a week for half a school year).

For those pupils who have met the time requirement the minimum passing mark is 65 credits; for all others 75 credits.

For admission to this examination attendance on at least 30 recitations in this subject in a registered summer high school in 1955 or an equivalent program of tutoring approved in advance by the Department is required.

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. All work must be shown.

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

- a An invoice of goods sold on May 27 has terms of  $\frac{5}{10}, \frac{2}{30}, \frac{N}{60}$ . What is the last possible date on which payment may be made in order to obtain the largest possible cash discount?
- b A table has been selling for \$75 less 20%. What additional per cent of discount must be offered in order to sell this table for \$54?
- c In June, Mitchell drove his car 1080 miles. In July, he drove it 1134 miles. What was the per cent of increase in the miles he drove during July?
- d On a bar graph, a one-inch line represents \$50. How long a line must be drawn to represent \$325?
- e On June 12, Dorr discounted at his bank a customer's two-month promissory note dated May 20. For how many days did the bank charge him discount?

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: 27.62; 306.9; 4.678; 92.517
- b Subtract 379.85 from 1692.4
- c Multiply 196.4 by .326
- d Divide 112.632 by 7.6
- e Add:  $9\frac{2}{7}$ ;  $5\frac{3}{4}$ ;  $16\frac{1}{2}$ ;  $2\frac{1}{14}$
- f Subtract  $6\frac{3}{4}$  from  $21\frac{1}{8}$
- g Multiply  $18\frac{1}{2}$  by  $6\frac{1}{3}$
- h Divide  $7\frac{1}{3}$  by  $1\frac{2}{3}$
- i Express  $\frac{9}{11}$  as a decimal correct to the nearest hundredth.
- j Change 2 yards, 1 foot, 5 inches to inches.

BUSINESS ARITHMETIC — *continued*

5 A farmer made sales of apples as follows:

- 150 bushels at \$3.75 per bushel
- 210 bushels at \$4.25 per bushel
- 325 bushels at \$4.75 per bushel

For what average price per bushel did he sell these apples, to the *nearest whole cent*? [10]\*

6 Barton, a salesclerk in a clothing store, received a salary of \$48 per week. He was also paid a commission of 5% on that part of his sales in excess of a quota of \$600 per week. His sales, during a recent four-week period, were as follows:

- First week ..... \$550
- Second week ..... 775
- Third week ..... 460
- Fourth week ..... 925

What were Barton's total earnings for this four-week period? [10]\*

7 Phillips can buy some office equipment from a local furniture store for \$840 less 25% and 10%. An out-of-town company will sell him the same type of equipment for \$800 less 30%. If Phillips buys from the out-of-town concern, he must also pay freight charges of \$16.25. How much money will Phillips save by taking the better of the two offers? [10]\*

**Part III**

**Answer any four questions from this part. All work must be shown.**

8 Fields bought a typewriter for \$180. Eight years later this machine was worth \$40. What was the average annual per cent of depreciation, correct to the *nearest tenth of a per cent*? [6]\*

9 Reynolds, an electrical-appliances dealer, bought a stove for \$240 less 16 $\frac{2}{3}$ %. His operating expenses amount to 12% of his sales. At what price must he sell this stove in order to make a net profit of 8% of its selling price? [6]\*

10 Wayne's New York State income-tax return for a recent year showed a net taxable income of \$3650 after all deductions for exemptions had been made. This income was taxed at the rate of 2% on the first \$1000, 3% on the next \$2000, and 4% on the next \$2000 or any fraction thereof. What was the total amount of Wayne's New York State income tax for that year? [6]\*

11 Miller's checkbook balance on June 1 was \$722.86. The bank statement which he received on that date showed a balance of \$882.11. In comparing this statement with his checkbook, Miller discovered that he had failed to enter a deposit of \$85 on his checkbook stub. Enclosed with his cancelled checks was a slip charging his account \$2 for printing his name on a checkbook. Checks were outstanding for \$46.50; \$20.00; \$9.75. Prepare a reconciliation statement and indicate the correct available checkbook or bank balance. [6]\*

12 Benson is employed in a factory on an eight-hour-per-day basis, with time-and-a-half for all overtime beyond eight hours daily. During a recent week he worked the following hours:

- Monday ..... 9 hours
- Tuesday ..... 7 hours
- Wednesday ..... 8 hours
- Thursday ..... 10 hours
- Friday ..... 10 hours

Benson's regular hourly pay rate for this work was \$1.60. What was the total amount of his earnings for the week? [6]\*

**Part IV**

Answer any four questions from this part. All work must be shown.

13 Zimmer paid \$3.85 for a railroad ticket. This price included a 10% federal tax, based on the original price of the ticket. What was the original price of the ticket? [4]\*

14 Gordon's gas meter read 18,300 cubic feet on May 1, and 22,600 cubic feet a month later. The rate charged him was \$1.20 for the first 1000 cubic feet, and \$1.10 for each additional 1000 cubic feet or fraction thereof. What was the total amount of Gordon's gas bill for the month? [4]\*

15 Holden, Bathel and Franklin are members of a partnership, with investments of \$32,000, \$24,000, and \$8,000 respectively. The partnership agreement states that profits and losses are to be shared in proportion to the partners' investments. The firm's net profit for last year was \$12,480. What amount did Franklin receive as his share of this profit? [4]\*

16 Bowen bought a refrigerator on the installment plan for a total price of \$340. He was required to make a down payment of \$100, and to pay the balance in equal monthly installments of \$16 each. How many months will it take him to pay for this refrigerator? [4]\*

17 Caldwell owns a house and lot assessed at \$5800. The real-estate tax rate in his community last year was 35 mills per dollar of assessed value. What was the amount of Caldwell's tax bill for this house and lot for last year? [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.]