The University of the State of New York

316TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Thursday, August 21, 1952 — 8.30 to 11.30 a. m., only

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* Subtract: [2]

$$\begin{array}{r} 286\frac{1}{3} \\ 98\frac{2}{3} \\ \hline \end{array}$$

b Make the extensions: [4]

219 bu. at 50¢ per bu. = $.....

36 in. at 15¢ per ft. = $.....

25 lb. at 48¢ per lb. = $.....

96 bu. at $1.12\frac{1}{2}$ per bu. = $.....

c Compute the interest: [4]

$2800 for 60 days at 3% = $.....

$1987 for 6 days at 6% = $.....

$1600 for 90 days at 2% = $.....

$60 for 113 days at 6% = $.....

d Complete the following statements: [6]

An article marked $30 is sold for $24. The per cent of discount given is .....%.

40% less than 60 is .....

5.348 expressed as a decimal to the *nearest tenth* is .....

125% of 64 is .....

The number of articles which can be bought for $40, at 20¢ per article, is .....

4% of $900 is .....

e Complete the following table of village library circulation: [No partial credit allowed.] [4]

Year	*Fiction*	*Nonfiction*	*Totals*
1949	1486	927	
1950	1193	1045	
1951	1208	839	
Totals			

BUSINESS ARITHMETIC

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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 1952 or number and length in minutes of lessons taken in the summer of 1952 under a tutor licensed in the subject and supervised by the principal of the school you last attended.

The minimum 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 1952 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.

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

a What single rate of discount is equal to a series of $33\frac{1}{3}\%$ and 10%?

b A sixty-day promissory note was dated June 16. What was its due date?

c A purchasing agent bought some merchandise for his employer for $650 and charged 8% commission for making the purchase. What total price did his employer pay to get these goods?

d In 1950, King's total expenses for running his car were $418. In 1951, his total car expenses amounted to $468.16. What was the per cent of increase in this cost?

e A stove that has been selling for $240 less 20% is to be reduced in price to $160. What additional per cent of discount must be given?

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: 97.402; 214.71; .797; 152.6

b Subtract 739.41 from 912.8

c Divide 202.368 by 52.7

d Multiply 310.4 by 5.69

e Using the four-step process, multiply $56\frac{1}{3}$ by $9\frac{1}{8}$

f Add: $2\frac{1}{5}$; $9\frac{1}{2}$; $13\frac{5}{6}$; $4\frac{1}{3}$

g Divide $17\frac{1}{4}$ by $7\frac{2}{3}$

h Express 235% as a mixed number in simplest form.

i Subtract $8\frac{2}{3}$ from $21\frac{1}{4}$

j Change 139 inches to yards.

5 Using the table and information given below, prepare a bar graph to show the facts. [*To the teacher:* deduct one credit for each error or omission.] [10]

DAILY ATTENDANCE AT MUSEUM
May 25–May 31, 1952

Sunday	960
Monday	350
Tuesday	420
Wednesday	570
Thursday	430
Friday	690
Saturday	840

6 Dugan, a salesman, is paid a salary of $60 per week and a commission on all sales in excess of a weekly quota of $800. During a recent four-week period, his total earnings from both salary and commissions amounted to $283.50. His sales for those four weeks were as follows:

First week	$950
Second week	782
Third week	1010
Fourth week	875

What per cent of commission did Dugan earn on his sales in excess of the quota of $800 per week? [10]*

7 Johnston, a clothing dealer, bought a shipment of 700 women's coats at $16.50 per coat. He sold 325 of them at $29.50 each, 200 at $24.50 each and the remainder at $19.50 each. What per cent of the cost of these coats did Johnston make as gross profit on the entire transaction, to the *nearest whole per cent?* [10]*

Part III

Answer any four questions from this part.

8 Hoyt's New York State income-tax return for a certain year showed a net taxable income, after all deductions had been made, of $4218. This income was subject to a tax of 2% on the first $1000 of taxable income, 3% on the next $2000 or any fraction thereof and 4% on the next $2000 or any fraction thereof. The state allowed the taxpayer to deduct a 10% discount from the total amount of his tax. What amount of money would Hoyt pay as New York State income tax for that year? [6]*

9 Aldrich wishes to buy a filing cabinet for his office. A local concern, the Bates Company, offers him a cabinet for $27.50, with free delivery, terms 2/10, N/30. An out-of-town firm, the Glendon Company, offers him a cabinet of the same quality for $25.00, terms 30 days, in addition to which Aldrich would need to pay shipping charges of $2.80. Aldrich is prepared to pay cash for the cabinet. What amount of money would he save by taking the better of the two offers? [6]*

10 Cummings works in a factory on an eight-hour-per-day basis at $1.40 per hour, with time-and-a-half for overtime. During a recent week, he worked the following number of hours:

Monday	8
Tuesday	7
Wednesday	9
Thursday	10
Friday	8

Total deductions from Cummings' pay totalled $7.97. What amount of money did Cummings receive as "take-home pay" after all deductions had been made? [6]*

11 Barlow, a salesman, is paid a monthly salary of $250 and a commission on all sales. During the first eight months of last year, his total earnings from both salary and commissions amounted to $3860. His total commissions for the last four months of that year amounted to $102. What *average* amount *per month* did Barlow earn last year from both salary and commissions? [6]*

12 Hildreth's bank statement, on December 1, 1952, showed a balance of $387.29. His checkbook balance on the same date was $214.86. A deduction slip included with the cancelled checks showed that Hildreth's account had been charged $18.75 for a U. S. savings bond purchased for him by the bank. Checks outstanding were for $100.00; $84.12; $7.06. Prepare a reconciliation statement and indicate the correct available checkbook or bank balance. [6]*

Part IV

Answer any four questions from this part.

13 Moulton's electric meter read 8412 kilowatt-hours on April 1 and 8560 kilowatt-hours on May 1. If Moulton was charged $4\frac{1}{2}¢$ per kilowatt-hour for electricity, what was the amount of his bill for the month of April? [4]*

14 Seymour bought a refrigerator for $265. Twelve years later it had a trade-in value of $42.40. What was the average annual per cent of depreciation on this refrigerator? [4]*

15 The total amount of real estate tax to be raised in a certain village last year was $37,391.41. The total assessed valuation of all taxable real estate was $1,342,600. What was the tax rate per $1000 which was necessary to raise the desired tax? [4]*

16 Whitman insured his office building for $40,000, at an annual rate of 18¢ per $100. If a three-year policy costs $2\frac{1}{2}$ times as much as a one-year policy, what amount would Whitman have saved by buying a three-year policy instead of three separate one-year policies? [4]*

17 Combs purchased a television set on the installment plan, making a down payment of $150 and 12 equal monthly payments of $15 each. The cash price of this television set was $295. By what per cent did the installment price exceed the cash price, to the *nearest tenth of a per cent?* [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.]