The University of the State of New York

314TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 22, 1952 — 9.15 a. m. to 12.15 p. 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.

340

RAPID CALCULATION TEST

1–2 *a* Make the extensions: [5]   *b* Compute the interest: [5]

320 bu. at 12½¢ per bu. = $...... $186 for 20 days at 6% = $......

500 lb. at $16.50 per M = $...... $1988 for 6 days at 6% = $......

75 yd. at 48¢ per yd. = $...... $60 for 94 days at 3% = $......

65 bu. at $1.10 per bu. = $...... $800 for 90 days at 5% = $......

8 yd. at 25¢ per ft. = $...... $1600 for 30 days at 1½% = $......

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

25% of $1197 is approximately ($4800; $3000; $300; $250).

39.7% expressed as a decimal is (397; 39.7; 3.97; .397).

½% of $940 is ($47; $18.80; $4.70; $1.88).

10 yd. 1 ft. 7 in. equals (380; 379; 373; 372) inches.

36 is ⅔ of (54; 48; 24; 12).

62½% of 80 is (10; 16; 50; 128).

d Add: [4]

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$ 97.38
   4.62
  40.51
  17.78
    .34
   9.63
  27.03
  10.09
   7.14
  57.23
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$
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341

BUSINESS ARITHMETIC

Tuesday, January 22, 1952

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.

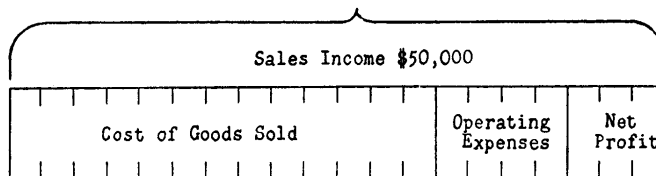Part I, 1–2   Rapid calculation test on attached sheet.   [20]

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 A filing cabinet which cost $48 had a trade-in value of $18 after 12 years of use. What was the amount of the average annual depreciation on this cabinet?

b Arnold's bank statement showed a balance of $812.47. Checks for $83.14; $162.50; $3.49 and $17.50 were outstanding. What was Arnold's correct available bank balance?

c An invoice for $2650 is dated November 3, terms $5/_{10}$, $2/_{30}$, $N/_{60}$. What amount of money is needed to pay this invoice on December 26?

d Wilkes' income for last year was $3000, of which he spent $900 for food. What per cent of his income did he spend for food?

e In 1950, Edwards' income from his investments amounted to $3980. In 1951, these investments earned him $4258.60. By what per cent did his earnings from investments increase?

4 The sales income of the Jefferson Manufacturing Company in 1951 was $50,000. The unit bar graph below shows the relationship between this income and the cost of goods sold, operating expenses and net profit.

Sales Income $50,000

Cost of Goods Sold | Operating Expenses | Net Profit

(Each division mark represents $2500.00)

Using the information given by the graph, answer the following questions, showing all calculations.

a What per cent of the sales income was the cost of goods sold?   [2]

b What was the amount of the gross profit, or margin, for the year?   [2]

c What was the amount of the net profit for the year?   [2]

d What per cent of the sales income was the net profit?   [2]

e What was the amount of the operating expenses for the year?   [2]

[3]

5 On your answer paper write the number that correctly completes *each* of the following statements. [All work must be shown; two credits will be deducted for each incorrect answer.] [10]

    a 3974.862 divided by 817.5, with the quotient expressed to the *nearest hundredth,* gives

    ....

    b On July 24, Hilton discounted at the bank a customer's ninety-day promissory note dated June 12. The bank will charge Hilton discount for .... days.

    c Buell can purchase a television set by paying $325 cash or, on the installment plan, by paying $44 down and the balance in 8 monthly payments of $40 each. The installment price exceeds the cash price by $................

    d Notebooks costing $2.40 per dozen are sold for 25¢ each. The per cent of gain on the cost is ....%.

    e Davern, a commission agent, kept $150 as his commission on a sale and turned the net proceeds of $750 over to his employer. The per cent of commission Davern earned on this transaction was ....%.

6 A grocer bought 10 crates of lettuce, averaging 80 heads to the crate, for $6.40 per crate. Twenty heads of this lettuce spoiled and had to be discarded. The grocer sold the remaining heads of lettuce at 2 for 25¢. What per cent of profit, based on the selling price, did he make on the entire transaction, to the nearest *tenth of a per cent?* [10]*

7 Booth needs to buy 10 calculating machines for use in his office. The Lucas Company has offered him a price of $120 per machine, less 20% and 10%, terms $^N/_{60}$. The Wheeler Company has offered him a price of $140 per machine, less 35%, terms $^2/_{10}$, $^N/_{60}$. If Booth can afford to pay cash for his purchases, what total amount will he save by accepting the better offer of the two? [10]*

Part III
Answer any four questions from this part.

8 Weatherby, in order to operate his furnace and hot water heater last winter, bought the following amounts of coal:
        5 tons of egg coal at $20.75 per ton
        3 tons of chestnut coal at $20.25 per ton
        4 tons of buckwheat coal at $17.00 per ton
What was the average price per ton, to the *nearest cent,* that Weatherby paid for his coal? [6]*

9 In a certain village, the amount of money needed for the total expenses for the year was $286,350. Of this amount, $2847 was expected to be received from fines, licenses and other revenue. If the total assessed valuation of all taxable property in the village was $8,646,280, what tax rate per $1000 would need to be levied in order to raise the necessary funds? [6]*

10 Mosher insured his store building for $16,000 at an annual rate of 21¢ per $100. If a three-year policy costs $2\frac{1}{2}$ times as much as a one-year policy, what amount would Mosher have saved by buying a three-year policy instead of three separate one-year policies? [6]*

11 Sherman bought 50 shares of stock for a total cost of $5863.50, including brokerage and other expenses. He kept this stock for two years, during which time it paid regular dividends quarterly of $2.10 per share. After receiving dividends for two years, Sherman sold the stock and received $5718.90 after brokerage and other expenses had been deducted. What was Sherman's net gain on the stock? [6]*

12 Gregg works on an eight-hour-per-day basis, with time-and-a-half for all time over 8 hours per day. During a recent week he worked the following hours:

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

His regular hourly pay rate was $1.40 per hour. The total deductions from his pay, for social security and withholding tax, amounted to $8.35. What amount of money did Gregg receive for his week's work, after all deductions had been made? [6]*

Part IV

Answer any four questions from this part.

13 Robinson and Byrne are partners in business, with investments of $64,000 and $36,000 respectively. Profits are to be shared in proportion to the partners' investments. The firm made a net profit of $24,320 in 1951. What was the amount of Robinson's share of this profit? [4]*

14 Reeves, a bankrupt, owed debts totalling $12,800. The net cash that was available for his creditors was $7552. What amount of money would have been paid to a creditor with a claim of $385? [4]*

15 Alvord, a salesman, is paid a commission of 10% on all sales and an additional commission of 5% on all sales in excess of $500 per week. During a recent week, Alvord's sales amounted to $618. What were Alvord's total earnings for the week? [4]*

16 On July 1, 1950, Harvey deposited $480 in a savings bank which paid interest at the rate of $1\frac{3}{4}\%$ per year. Interest was added to the account every six months. How much money did Harvey have on deposit in the bank at the end of one year if he made no additional deposits or withdrawals during that time? [4]*

17 Townsend's monthly telephone bill amounted to a total of $4.83. This included a Federal tax of 15% which had been added to the original amount of the bill. What was the original amount of the bill? [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.]