The University of the State of New York

299TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 28, 1947 — 9.15 a. m. to 12.15 p. m., only

Fill in the following lines:

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

Instructions

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.

This is a mental test — scrap paper may not be used.

RAPID CALCULATION TEST

1–2 *a* Subtract: [1]

$$\begin{array}{r} \$20. \\ 11.65 \\ \hline \$ \end{array}$$

b Add: [1]

$$\begin{array}{r} 12\frac{1}{2} \\ 6\frac{3}{8} \\ \hline \end{array}$$

c Complete *each* of the following: [5]

.36 multiplied by .4 equals _____

27 is $\frac{3}{4}$ of _____

.875 expressed as a fraction (lowest terms) is _____

$1\frac{1}{2}\%$ of \$100 is \$_____

Model X radios had been selling for \$25. OPA authorized an increase of 8% of the former selling price. The new selling price is \$_____

d Complete the following sales summary: [5]

Department	Income	Expense	Profit
A	\$1240	\$318	\$922
B	927	265	
C	1375	484	
Totals	\$	\$	\$

e Compute the interest on *each* of the following: [4]

\$150 for 90 days at 6% = \$

\$420 for 4 months at 5% = \$

\$200 for 1 year at $1\frac{1}{2}\%$ = \$

\$600 for 28 days at 3% = \$

f Make the extensions: [4]

84 bushels at 75¢ per bu. = \$

6 quarts at \$1.80 per gallon = \$

500 lb. at \$14 per ton = \$

$\frac{3}{8}$ lb. at 64¢ per lb. = \$

BUSINESS ARITHMETIC

Tuesday, January 28, 1947

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 and eight of the others. Unless otherwise stated all operations except mental ones are to be shown written in ink. Practical business methods must be used in solutions.

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

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

a Clark's electric meter on December 2 read 23,466 kw-hr. A month later it read 23,592 kw-hr. At an average rate of $4\frac{1}{2}¢$ per kw-hr, find the amount of Clark's electric bill.

b Summers discounted at 6% his 60-day non-interest-bearing note for $450 today at the bank. Find the proceeds of the note.

c A retailer sold an article for $27, at a loss of 10% of the cost. What did the article cost the retailer?

d An antique lamp purchased several years ago for $8 is now valued at $40. What is the per cent of increase in the value of the lamp?

e An electric iron cost a dealer $4.80. At what price should the dealer sell the iron to yield a profit of 40% of the selling price?

4 A music dealer bought 800 phonograph records at 53¢ each, less 30% and 10%, terms 1/10, n/30. He took advantage of the cash discount. Express charges were $3.55. His selling expenses were $2\frac{1}{2}¢$ per record. What was the dealer's profit per record if he sold them at 53¢ each? [10]

5 A commission merchant bought 300 bags (100 lb. each) of potatoes for Douglas at $2.50 per bag, charging him 5% commission. Other expenses incurred by Douglas were trucking and cartage $64.80 and miscellaneous expense $11.70.

a Find the total cost of the potatoes to Douglas. [6]*

b What must be the selling price of 25 lb. of potatoes to gain $33\frac{1}{3}\%$ of the cost? [4]*

6 *a* In 1940 Wilson bought a Premier automobile, paying $210 down with 12 monthly payments of $55.65 each. In 1946 he bought the same make and model of car, paying $280 down with 12 monthly payments of $74.20 each. What was the per cent of increase in the price of this model car? [6]*

b On December 31 Field's bank statement showed a balance of $975.35. There were outstanding checks of $124.65 and $37.20. The bank had collected a $75 note for him, but he had not entered this item in his checkbook. His checkbook balance was $738.50. Reconcile these figures and indicate the correct available checkbook or bank balance. [4]*

7 Hill's taxable income for a certain year was $5890. The tax is 21% on the first $4000 and 26% on the excess over $4000. During the year his employer deducted $1152 from his salary to apply on his income tax. How much does Hill still owe as income tax? [10]

8 *a* During the year 1945 Logan, Hart and Jackson were partners in a garage business, with investments of $4000, $8000 and $12,000, respectively. At the end of the year the net profit was $4680. Each partner received 6% on his investment and the remaining profits were shared equally. What was Logan's total share of the profit? [6]*

b On January 2, 1946, the partnership was changed to a corporation. Logan received 80 shares of stock as his ownership in the corporation. During 1946 the company paid four dividends of $4.50 each per share. How much more income did Logan receive from the business in 1946 than in 1945? [4]*

9 *a* Benton receives an hourly wage of $1.20 an hour for a 40-hour week and time and a half for overtime. During one week he works 10 hours daily, Monday through Friday, and 6 hours on Saturday. How much does Benton earn during this week? [4]*

b Lowe, a salesman, received a monthly salary of $160 and various rates of commission on different articles. His total earnings for the year 1946 including both salary and commissions were $3990. If his annual sales amounted to $34,500, his commissions were what per cent of his sales? [6]*

10 *a* During the year Brown paid premiums on the following insurance: a policy for $8000 on his house at the 3-year rate of 54¢ per $100, a $2500 policy on furniture at the 3-year rate of 60¢ per $100, a comprehensive policy on his car at $6.80 for one year, and a public liability and property damage policy for one year at $33.35. What was Brown's average cost of insurance for one year? [6]*

b Tucker bought a United States Government bond for $375. Five years later he sold the bond for $420. What was the average annual per cent of increase in the value of the bond? [4]*

11 *a* On July 1, 1946, Miller deposited $3000 in a savings bank. The bank pays interest at the annual rate of $1\frac{3}{4}\%$. Money on deposit for less than 6 months does not earn interest. On December 1, 1946, Miller needed $3000. He could borrow this amount at $4\frac{1}{2}\%$ for 30 days or withdraw his savings and lose the interest. Which plan should Mr Miller have followed and how much would he have gained? [6]*

b The money to be raised by local taxes in a certain village is $272,783. The assessed valuation of the property is $14,650,000. Find the tax rate per $1000 of assessed valuation. [Carry to *five* decimal places.] [4]*

12 Answer all parts of this question. [Two credits for each correct answer; no partial credit; no credit allowed unless work is shown. Reduce each answer to its simplest form.] [10]

a Subtract 5789 from 7321

b Divide 31.4028 by 67.1

c $9\frac{1}{4}$ minus $5\frac{1}{3}$ =

d Divide $\frac{3}{8}$ by $\frac{5}{6}$

e Using the four-step process, multiply $36\frac{1}{2}$ by $16\frac{1}{4}$

* *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 which contains an error in method and an error in computation.]