

The University of the State of New York

296TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 29, 1946—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 results 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 work must be done with pen and ink.

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

RAPID CALCULATION TEST

1-2 a Add: [4]

\$ 98.65
75.43
14.88
86.29
45.77
26.56
24.51
78.63
35.89
69.74
58.91
36.72
16.55
68.27
35.12
\$

b Find the interest on *each* of the following: [5]

\$180 for 4 months at 6 %	= \$
\$360 for 26 days at 6 %	= \$
\$240 for 45 days at 4 %	= \$
\$636 for 10 days at 3 %	= \$
\$500 for 1 year at $2\frac{1}{2}\%$	= \$

c Make the extensions: [5]

125 articles at 40¢	= \$
150 lb. at 3.60 per cwt	= \$
100 doz. at $46\frac{1}{4}\phi$ per doz.	= \$
48 bu. at \$1.75 per bu.	= \$
1600 lb. at \$45 per ton	= \$

d Underline the correct answer for *each* of the following: [6]

A debt incurred March 15 and due 3 months later should be paid on (June 13; June 14; June 15; July 15)

$2\frac{1}{2}\%$ expressed as a decimal is (2.5; .25; .025; .0025)

A book listed at \$4.00 is sold for \$3.20. The rate of discount is (80%; 75%; 25%; 20%)

25 is 20% of (125; 80; 50; 5)

$\frac{3}{4}$ plus $\frac{1}{2}$ plus $\frac{3}{8}$ equals ($1\frac{7}{8}$; $1\frac{5}{8}$; $\frac{7}{14}$; $\frac{9}{4}$)

90 divided by 4.5 equals (200; 20; 2; .2)

BUSINESS ARITHMETIC

Tuesday, January 29, 1946

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. Practical business methods must be used in solutions.

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

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

- a A share of stock costing \$200 paid a quarterly dividend of \$2.25. To what annual rate of return is this equivalent?
- b Stevens insures his \$12,000 house at 90% of its value. At a rate of 39¢ per \$100, find the amount of the premium.
- c A consumer's gas meter read 68,700 cu. ft on December 15 and 73,600 cu. ft on January 15. Find the amount of his gas bill if the rate is \$1.40 per thousand cu. ft.
- d In a period of 20 weeks John increased his average typing speed from $27\frac{1}{2}$ words to 44 words per minute. What was the rate of increase?
- e During 1945 Mary earned \$2000. Her "take home" pay was \$1640. What per cent of her earnings was withheld?

4 A company deposited the following: 98 pennies, 21 nickels, 41 dimes, 16 quarters, 27 half dollars, 9 dollars, 7 five-dollar bills, 4 ten-dollar bills, 1 twenty-dollar bill and checks for \$35.64, \$38.60, \$51.36, \$42.98, \$1.01 and \$78.90. Find the amount of the deposit. [10] [No credit unless answer is correct.]

5 Johnson and Weston are partners with investments of \$10,000 and \$15,000 respectively. They are to receive monthly salaries of \$200 for Johnson and \$300 for Weston and 6% interest per year on their investments. After salaries and interest have been deducted, the remaining net profit is to be shared equally. During the year just ended, the partnership net profit amounted to \$9900. Find Johnson's total income from the business for the year. [10]

6 Mrs Doherty's laundry bill averaged \$2.80 a week. To economize, she bought an electric washer (cash price \$160) for \$40 down and 3 monthly payments of \$40 each plus carrying charges of 1% per month on the unpaid balance.

- a What was the total amount of the carrying charges that Mrs Doherty paid on her installment purchase? [In your solution show the amount of the carrying charges to be paid each month.] [8]
- b In how many weeks would the laundry bills have equaled the total cost of the washer? [2]

7 Stimson dictated 20 letters to his secretary in 2 hours. She spent a total of 5 hours taking the dictation and typing the letters. Stimson's salary was \$12 a day for 8 hours; his secretary's salary was \$6.40 a day for 8 hours. Other expenses averaged 5¢ a letter. What was the average total cost per letter? [10]

BUSINESS ARITHMETIC — *concluded*

8 On January 4, 1946, Nolan bought an invoice of goods for \$1890, less 20% and 5%, terms 3/10, 1/30, n/60.

- a What will be the amount of the check if Nolan pays the invoice on March 5? [4]
- b Nolan borrowed the necessary cash for 50 days at 5% and paid the invoice January 14. How much did he save? [6]

9 In figuring a price for shoes, the Hanson Shoe Company used the following manufacturing costs per pair: labor \$1.90, leather and trimmings \$2.30, factory overhead \$.60. They estimated the selling and management expenses at 15% of sales. What price per pair did the company quote for the shoes in order to make a net profit of 10% of the selling price? [10]

10 The following table shows the quotas, sales, and salaries of Williams and Oliver for December:

	<i>Quota</i>	<i>Sales</i>	<i>Salary</i>
Williams	\$2500	\$2850	\$250
Oliver	\$3000	\$3750	\$300

In addition to his salary, each salesman received a bonus of 2% on sales up to and including his quota and a 4% bonus on sales in excess of his quota.

- a What was the total amount of Williams' bonus for December? [4]
- b What were Oliver's total earnings during December? [6]

11 In 1940, the Wilson Company purchased a delivery truck for \$1800. After 5½ years the company bought a new truck for \$2450, trading in the old truck and paying \$1860 cash.

- a What was the average yearly depreciation on the delivery truck bought in 1940? [4]
- b During the year before it was traded in, the truck was driven 14,385 miles. In addition to the depreciation, the following expenses were incurred during the same year: repairs \$324, gasoline and oil \$652, license plates and insurance \$185. What was the average total cost per mile to operate the truck? [Answer to the *nearest tenth of a cent.*] [6]

12 First mortgage 3¼% bonds, \$1000 face or par value, of the American Utility Company can be bought for 93½ plus \$2.50 brokerage fee per bond.

- a What is the rate of return on the bond? [4]
- b How much money must be invested in these bonds to secure an annual income of \$1800? [6]