

The University of the State of New York

291ST HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, June 20, 1944 — 9.15 a. m. to 12.15 p. m., only

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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 the following: [4]

2 4 5 1
 3 4 8 6
 2 3 4 2
 8 9 0 6
 5 7 4 5
 4 8 9 3
 9 2 7 5
 2 7 3 4
 6 9 5 7
 8 5 9 3
 2 8 4 6
 4 2 5 5
 6 8 7 9
 5 9 3 1
 9 5 8 8
7 3 5 6

b Make the extensions: [4]

96 yd at 25¢ =
 350 bu. at 40¢ =
 500 lb. at \$15 a ton =
 72 doz. at \$1.25 =

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

\$250 for 3 months at 4% =
 \$150 for 40 days at $1\frac{1}{2}\%$ =
 \$600 for 39 days at 6% =
 \$360 for 90 days at 5% =

d Complete *each* of the following: [8]

If a vacuum sweeper listed at \$75 is sold for \$60, the rate of discount is %.

A tax rate of 22 mills per \$1 is equivalent to \$..... per \$1000.

A pound of cheese retails for 48¢. At that price per pound, 12 ounces would cost¢.

$\frac{3}{4}\%$ of \$880 is \$.....

At $33\frac{1}{3}\%$ a yard, the number of yards of material that can be bought for \$18 is

.0125 is equivalent to %.

A 60-day note dated March 18 will be due

The terms of a \$550 invoice are 2/10, n/30. The cash discount amounts to \$.....

BUSINESS ARITHMETIC

Tuesday, June 20, 1944

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 minimum time requirement is 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 Hall insures the furniture in his home for \$2500 at \$5 per \$1000 for three years. What is the amount of the premium?
- b An employee in an aircraft plant is paid a wage of 90¢ an hour for a 40-hour week. If \$5.16 is deducted from his weekly salary for social-security and withholding taxes, what will be the amount of his pay check?
- c The tax rate for 1944 in Glendale is \$18.75 per \$1000. If property worth \$6500 is assessed at 80% of its value, find the amount of the tax bill.
- d The June reading of a gas meter was 26,800 cubic feet. The May reading was 23,900 cubic feet. At \$1.10 per 1000 cubic feet, find the amount of the gas bill for June.
- e Leather gloves, which formerly sold at \$3 a pair, now sell for \$3.75. What is the per cent of increase?

4 Vinson bought a house for \$6700, giving \$1200 cash and a 5% mortgage for the balance. In addition to the interest on the mortgage, his annual expenses were: taxes \$143, insurance \$9, repairs \$75, and depreciation at 2% of the cost of the house. He rented the house for \$60 a month. What was Vinson's net rate of return on his cash investment? [10]

5 A house valued at \$7500 was insured for \$5000. The policy contained an 80% coinsurance clause. The owner paid a premium of 45¢ per \$100 for 3 years.

- a What was the average annual cost of the policy? [4]
- b A fire caused a loss of \$4200. How much did the insurance company pay? [6]

6 An electric radiator heater is invoiced to a dealer at \$80, less 20% and 10%. His overhead expenses are 25% of his sales. At what price should he mark the heater to yield a profit of 15% of the selling price? [10]

7 On January 1, 1942, Snyder deposited \$3400 in a savings bank. Interest was paid at the rate of 2% a year and added to the account on July 1, 1942, and January 1, 1943. On January 2, 1943, he withdrew the original deposit of \$3400 and invested it in aircraft stock at $42\frac{1}{2}$ (including brokerage fee). During 1943 he received four quarterly dividends of 60¢ each on each share of stock.

- a How much interest did the savings deposit earn for the year 1942? [4]
- b How much did Snyder receive in 1943 from his investment in the stock? [6]

BUSINESS ARITHMETIC — *concluded*

8 The Mohawk Agency offered Hill, a salesman, a monthly salary of \$100 and a 4% commission on all sales. Martin Brothers offered Hill a commission of 5% on the first \$5000 of sales and 6% commission on all sales in excess of \$5000.

- a If Hill's sales averaged \$6800 a month, from which agency would he have received the greater income? [2]
- b How much more per month would Hill have earned in the better-paying position? [8]

9 During one winter it cost Williams \$150 to heat his house with coal. The following year he installed an oil burner which cost \$250. His heating expenses for that year were: 1600 gallons of oil at 9.5¢ a gallon, 140 kwhr of electricity at 5¢ a kwhr, depreciation at 10% of the cost of the burner, interest on his investment at 4%. How much more did it cost Williams to heat with oil? [10]

10 Wayne, a physician, bought a car for \$1200. During the year he drove the car 8490 miles. His car expenses were: gasoline and oil \$118, repairs and miscellaneous expenses \$63, insurance \$45, license plate \$17, interest on the investment at 2%, and depreciation at 30% of the cost of the car.

- a Find Wayne's total car expense for the year. [6]
- b Find the cost per mile of operating Wayne's car. [Express answer to the *nearest tenth* of a cent.] [4]

11 A shoe dealer formerly bought shoes at \$6.20 a pair and sold them for \$8.60, selling an average of 25 pairs daily. Recently the price of shoes to the dealer was increased to \$7.25 a pair and he advanced his selling price to \$10.45. Because of ration restrictions, his sales dropped to an average of 18 pairs a day.

- a What was the amount of the shoe dealer's average daily profit when he sold the shoes at \$8.60 a pair? [2]
- b When he sold the shoes at \$10.45, by how much was his average daily profit increased or decreased? [4]
- c What was the per cent of increase or decrease? [4]

12 A price tag on a used car reads: cash price \$900; instalment plan, \$300 down payment with 12 monthly payments of \$53 each.

- a By what per cent does the instalment price exceed the cash price? [4]
- b A prospective buyer has \$300 cash. Should he buy the car in accordance with the instalment plan or borrow the additional money for one year at 5% and pay cash? [1]
- c What amount will he save? [5]