

The University of the State of New York

279TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Thursday, August 22, 1940—8.30 to 11.30 a. 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.

RAPID CALCULATION TEST

1-2 a Add [5]

6432
 7519
 2964
 1786
 6945
 1479
 5306
 6679
 3893
 2931
 9887
 2468
 1916
 2854
 7693
 6945
 3456
7201

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

\$120 for 10 days at 6% =
 \$600 for 3 months at 2% =
 \$400 for 80 days at $4\frac{1}{2}$ % =
 \$500 for 36 days at 5% =
 \$380 for 15 days at 3% =

c Make the extensions: [5]

750 lb @ \$4 per C =
 150 lb @ 1.50 =
 640 lb @ .37 $\frac{1}{2}$ =
 160 lb @ .07 $\frac{1}{2}$ =
 480 lb @ .16 $\frac{2}{3}$ =

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

A typewriter was listed at \$110 and sold for \$88; the rate of discount was

A letter file that sold for \$40 cost \$25; the rate of profit based on the selling price was

The number of yards that can be bought for \$75 at \$1.25 a yard is

A coat that cost \$30 was sold for \$45; the rate of profit based on the cost was

.0075 is equivalent to%. [Express fraction in lowest terms.]

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 1940.

The minimum time requirement is 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 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 1940 is required.

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 are assigned to each correct answer. Answers only are required in this question.]

- What single rate of discount is equivalent to the series 20%, $12\frac{1}{2}\%$ and 5%?
- For six consecutive days a newsboy's profits were as follows: 84¢, 40¢, 75¢, 57¢, 86¢ and \$1.02. What was his average daily profit?
- How much will a hardware dealer pay if he takes advantage of the discount on an invoice for \$500, terms $\frac{3}{10}$ $\frac{1}{30}$?
- Find the area in square yards of the floor of a hall which is 12 feet long and whose width is $\frac{1}{2}$ of its length.
- A 60-day note for \$800 is dated today and is discounted today at 6%. How much will the bank deduct for its service?

4 A man sold two houses for \$4000 each; on one he gained 10% on the cost; on the other he lost 10% on the cost. Find his net gain or net loss. [10]

5 Mr Race insured his store for \$5000 at an annual rate of 28¢ per \$100. The insurance agent told Mr Race that it would be to his advantage to insure for a longer period. The agent explained that if he took out a policy for three years, the rate would be $2\frac{1}{2}$ times the annual rate and if he insured for five years, the rate would be four times the annual rate.

- What premium did Mr Race pay for his one-year policy? [2]
- What premium would he have paid if he had taken a three-year policy? [2]
- What would have been the average annual cost of a three-year policy? [2]
- What premium would he have paid if he had taken a five-year policy? [2]
- Why was the insurance company willing to quote a cheaper rate when the insurance was taken out for more than one year? [2]

6 On an invoice of \$3460, Martin & Company are offered three months credit or a discount of 5% for cash. Not having the ready money, they accept the credit terms. How much would they save if they borrowed the money at 6% and paid cash? [10]

7 The assessed valuation of property in a certain city is \$18,226,098. The estimated budget expenses are \$1,337,108. Expected receipts are \$201,999 from the state and \$391,319 from license fees.

- a Find the tax rate per \$1000. [Give your answer correct to the *nearest cent*.] [5]
- b If \$277,430 of the budget was to be collected from real estate owners for school support, what was the school-tax rate in mills on a dollar? [3]
- c John Lathrop had a house valued at \$5000 and assessed for $\frac{3}{4}$ of its value. What was the amount of his school tax? [2]

8 During the years 1934–38 inclusive, 2,153,575 accidents were reported to the New York State Workmen's Compensation Division. During this period, 1,872,091 hearings were held and 817,461 cases were closed.

- a Find the average number of accidents reported annually during the period. [2]
- b Find the per cent of accidents on which hearings were given. [Express the result to the *nearest tenth per cent*.] [4]
- c Find the per cent of cases heard that were closed. [Express the result to the *nearest hundredth per cent*.] [4]

9 A, B and C are partners in a business which showed a net profit of \$11,356.70. A's investment is \$12,000; B's \$18,000; and C's \$24,000. The balance of the net profit was divided equally among the partners, after each partner was paid 6% interest on his investment and \$5000 was reserved for contingencies that might arise.

- a Find the share of the balance of the net profit that each partner received. [6]
- b Find the total income that each partner received. [4]

10 A savings bank pays interest on its deposits at the rate of $1\frac{1}{2}\%$ a year and adds the interest to the balance on the first of January, April, July and October. No interest is allowed on fractional parts of a dollar. Deposits made not later than the third business day of any month draw interest from the first of the month. On January 2, 1939, James Smith deposited \$500. On April 1, he withdrew \$100. On July 1, he deposited \$75. He closed his account on October 1, 1939.

- a How much did the bank pay Mr Smith on October 1, 1939? [8]
- b What was the amount of bank interest that he recorded on his income-tax blank? [2]

11 At what price should an article that cost \$72 be marked, in order to allow a discount of 20% from the marked price, pay the agent a 10% commission for selling and make a profit of 25% on the cost of the article? [10]

12 The cash price of an automobile was \$991. Harry Jordan bought the car on a deferred-payment plan which required a down payment of \$331 and 12 monthly payments of \$61.63. Mr Jordan could have borrowed money from the bank at 5%.

- a How much would the bank have charged to lend him the balance required to buy for cash? [2]
- b What was the amount that Jordan paid for financing his purchase on the deferred-payment plan? [2]
- c Including the finance charge, how much did Jordan's car actually cost him? [2]
- d By what per cent did the amount Jordan paid exceed the cash price of the car? [4]