

The University of the State of New York
290TH HIGH SCHOOL EXAMINATION
BUSINESS ARITHMETIC
Tuesday, January 18, 1944 — 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.

RAPID CALCULATION TEST

1-2 a Complete the following sales record: [5]

	Jones	Wilson	Total
July	\$435	\$623	\$
August	386	464	
September	215	532	
October	229	574	
November	189	732	
December	473	366	
Total			

b Make the extensions: [5]

48 bu. at $\$.66\frac{2}{3}$ =
 175 articles at 32ϕ =
 640 dozen at $\$1.25$ =
 $12\frac{1}{2}$ lb. at 36ϕ =
 360 articles at 75ϕ =

c Compute the interest on *each* of the following: [5]

$\$160$ for 42 days at 6% =
 $\$280$ for 1 year at $1\frac{1}{2}\%$ =
 $\$420$ for 16 days at 6% =
 $\$240$ for 90 days at 4% =
 $\$300$ for 45 days at 2% =

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

$2\frac{3}{8}\%$ expressed as a decimal is

$\$25$ is% greater than $\$20$.

$1\frac{1}{2}\%$ of $\$160$ is \$.....

The exact number of days from March 25 until May 6 is

.6 divided by .15 equals

BUSINESS ARITHMETIC

Tuesday, January 18, 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 A piece of real estate is assessed at \$7500; find the tax to be paid if the rate is 21 mills per dollar.
- b How much must be invested in 6% preferred stock at 120 to receive annual dividends of \$1200? [Disregard brokerage fee.]
- c If \$198 represents the amount of an invoice, less 1%, what was the amount of the invoice?
- d Mason insures his house valued at \$7500 at 80% of its value. If the rate is 48¢ per \$100, find the amount of the premium.
- e A tire that cost \$8.50 sold for \$11.90. Today a tire of the same quality costs \$12.75. For how much must it be sold to make the same rate of profit on the cost?

4 An ice refrigerator is billed to a dealer at \$75, less 20% and 10%. He allows his salesman a commission of 8% on sales and figures his overhead expenses at 12% of sales. At what price should he sell the refrigerator to gain 20% of the selling price? [10]

5 Hogan's bank balance was \$1016.78. To pay an invoice of \$1365.50, less 3%, Hogan borrowed the necessary additional funds at the bank on his 30-day, 5% interest-bearing note.

- a What will be the amount of Hogan's check to pay the invoice? [2]
- b How much must he pay the bank when the note is due? [8]

6 The Vickers Machine Shop has been renting a building for their subassembly work at \$300 a month. They can buy the building for \$45,000. If they bought it, they could rent the upper floor for \$90 a month and they would have the following annual expenses: insurance \$180, miscellaneous expenses \$115, taxes \$865, repairs estimated at 1½% of the cost of the building. If money is worth 5% to them in their business, how much would they gain or lose annually by buying the building? [10]

7 Williams had 860 bushels of potatoes to sell. He could have sold them with no expense involved at \$2.10 a bushel. However, he sent them to a commission merchant, who sold 450 bushels at \$2.60 and the remainder at \$2.25 a bushel. The commission merchant charged 3¢ a bushel for storage, \$36.80 for freight and cartage, and a 3% commission.

- a Find the amount of the net proceeds remitted to Williams. [8]
- b How much did Williams gain or lose by sending his potatoes to the commission merchant rather than selling them locally? [2]

8 The monthly rates for gas for heating purposes in a certain area are as follows: 80¢ for the first 400 cubic feet, the next 2600 cubic feet at 16¢ per 100 cubic feet, the next 3000 cubic feet at 7¢ per 100 cubic feet and the next 15,000 cubic feet at 6¢ per 100 cubic feet. Find the amount of Meyer's gas bill for the month of January if he used 16,400 cubic feet. [10]

BUSINESS ARITHMETIC — *concluded*

9 Below is the time card of Allison, a defense worker, showing the time he has worked in the plant for the week ending January 15. His regular wage is 90¢ an hour with time and a half for all overtime after he has worked his standard 40-hour week.

Day	In	Out	In	Out
Monday	7:00	12:00	1:00	6:00
Tuesday	7:00	12:00	1:00	6:30
Wednesday	7:00	12:00	1:00	6:30
Thursday	7:00	12:00	1:00	4:30
Friday	7:00	12:00	1:00	5:30
Saturday	7:00	12:00	1:00	4:00

a Find Allison's total wages for the week. [8]

b If the employer deducts 1% for social security, \$6.60 for withholding tax, and \$6.25 for war bonds, what amount should Allison receive in his pay envelop? [2]

10 In the Precision Products Company, Abbott invested \$12,000, Johnson \$16,000 and Moore his services. Out of the first year's profit of \$9675, Abbott and Johnson each were allowed 12½% on their investments, and Moore \$1600 as salary. The remaining profits were divided equally among the three partners.

a Find Abbott's total income for the year. [4]

b Find Johnson's total income for the year. [4]

c Find Moore's total income for the year. [2]

11 The taxable property in a certain town is assessed for \$4,540,000. It is estimated that \$2500 will be received from special licenses and \$75,300 will be received from the state for school purposes. The estimated expenses for the year are as follows: wages and salaries \$55,000, schools \$52,800, new buildings \$20,000, improvements \$8000, interest on bonds \$12,000.

a What should be the tax rate (correct to *five* decimal places) to yield income sufficient to meet the budget? [7]

b Express this rate as a tax per \$1000. [1]

c What tax should Mr Johnson pay if his property is valued at \$7500 and assessed at 80% of its value? [2]

12 Write the letters *a, b, c, d, e* on your answer paper. After *each* letter write *True* if the corresponding statement is true; if the statement is false, write the amount that should be substituted for the underscored amount to make the statement correct. [Two credits will be deducted for each incorrect answer.] [10]

a A retailer paid \$48 for an article on which a discount of 20% had been allowed. The list price of the article was \$60.

b We receive a 30-day, 6% interest-bearing note, dated January 6, for \$480. On February 5 the amount due will be \$481.44.

c Clark sold five eighths of his farm for \$4000. At that rate the whole farm was worth \$5500.

d Discounts of 30% and 15% are equivalent to a single discount of 45%.

e John desires to obtain an average grade of 92 on five tests. His grades for the first four tests are 96, 90, 88 and 86. On the last test he must score 100.