BUSINESS ARITHMETIC

Tuesday, January 23, 1940

NAME OF SCHOOL

NAME OF CANDIDATE

Fill above blanks before signal to begin work is given by examiner.

Do not open this paper until the signal is given.

Examiner will place this paper closed on desk of each candidate. Candidate will open the paper and begin work at signal from examiner. All parts of the rapid calculation test are to be worked mentally and the results placed on the sheet. 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.

BUSINESS ARITHMETIC RAPID CALCULATION TEST

Tuesday, January 23, 1940 — 9.15 a. m. to 12.15 p. m.

1–2 *a* Complete the following sales record: [4]

	Cash	Credit	Total
Monday	$ 92	$ 85	$
Tuesday	121	246	
Wednesday	279	334	
Thursday	82	98	
Friday	293	402	
Saturday	389	591	
Total	$	$	$

b Compute the interest: [5]

$150 for 96 days @ 6% =
$800 for 27 days @ 3% =
$269 for 4 months @ 6% =
$ 18.60 for 50 days @ 6% =
$270 for 120 days @ 2% =

c Make the extensions: [5]

268 articles @ $2\frac{1}{2}¢$ =
440 bu. @ $1.25 =
750 bu. @ 44¢ =
298 yd @ $33\frac{1}{3}¢$ =
1200 lb @ $25 a ton =

d Complete *each* of the following: [6]

$1\frac{1}{2}¢$ a pound is equivalent to $..... a ton.

48 is $\frac{1}{3}$ larger than .....

$\frac{1}{4}$% of $240 is $.....

1.5 divided by 30 equals .....

The exact number of days from October 4, 1939 to January 2, 1940 is ..... days.

.0125 is equivalent to .....%.

The University of the State of New York

277TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 23, 1940 — 9.15 a. m. to 12.15 p. m., only

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

a A farmer sold $\frac{3}{8}$ of his potatoes for \$60. At that rate, what would he receive for the remainder of his crop?

b In November, Jones & Smith had goods on hand amounting to \$9225. During the month they purchased goods worth \$6878. If at the end of the month the goods on hand amounted to \$5269, find the cost of the goods sold during November.

c For how much must goods that cost \$147 be sold to gain $16\frac{2}{3}\%$ of the selling price?

d After allowing discounts of $12\frac{1}{2}\%$ and 10% on an article listed at \$60, a dealer made a gross profit of \$9. Find the cost of the article.

e In a 10-day trip to the Gaspé Peninsula, we traveled 2280 miles. If we drove an average of 6 hours a day, what was our average hourly rate of travel?

4 Gasoline which was purchased for 13¢ a gallon was sold at 17.5¢ a gallon. At this price 500 gallons a day were sold. During a gasoline war the sales price of the same gasoline was reduced to 6 gallons for 99¢. At this price 660 gallons were sold in a day. Was the profit decreased or increased, and how much? [10]

5 *a* A building was insured in three companies as follows: National Co. \$8000; Standard Co. \$9000; Mutual Co. \$3000. If a fire loss of \$1620 occurred, find each company's share of the loss. [5]

b A building valued at \$12,000 is insured for \$8000 under a policy containing an 80% coinsurance clause. What amount must the company pay in case of a fire loss of \$1800? [5]

6 If discounted at 6% on August 29, 1939, what were the proceeds of a 90-day note for \$526.10, dated July 15, 1939, with interest at 5%? [10]

7 The assessed valuation of taxable property in a certain school district is \$9,446,190. The gross cost of operating the schools amounts to \$300,669.21. The school district's income from state moneys and nonresident tuition fees is \$126,623.97.

a Find the tax rate. [Carry the decimal to *five* places.] [6]

b Express your answer to *a* as the tax rate per \$1000. [1]

c Find the amount of John Smith's school tax if his property is valued at \$12,000 and assessed at 75% of its value. [3]

8 A merchant buys gloves at \$18 a dozen pairs. During a special sale he desires to offer a discount of 20% from the marked price and still make a profit of $33\frac{1}{3}\%$ on the cost. At what price must each pair be marked? [10]

9 The Eastern Electric Company pays its employees time and a half for overtime. Regular factory hours are 8 hours a day from Monday to Friday inclusive. All other working time is considered to be overtime. During the week of January 8, James Jones was employed as follows: Monday 7 hours, Tuesday $8\frac{1}{2}$ hours, Wednesday 9 hours, Thursday $10\frac{1}{2}$ hours, Friday 6 hours, Saturday 5 hours.

a If his wage rate was 75¢ an hour, what was the amount of his wages for the week? [6]

b If Jones spent 28% of his earnings for rent and 23% for food, how much money did he have left out of his earnings for the week? [4]

10 Brown, a salesman, is paid \$120 a month and a 4% commission on all sales in excess of \$25,000 for the year. During 1939, Brown's sales amounted to \$32,680.

a How much commission was Brown entitled to receive? [4]

b What was Brown's total income for the year? [4]

c What was Brown's average monthly income for the year? [2]

[OVER]

11 In 1937, Merrill used 8.4 tons of coal in his furnace. Coal was $11 a ton and Merrill figured that his depreciation was $5 and service costs $2 a year. He then installed an automatic stoker at a cost of $235. In 1938, his annual expenses were as follows: interest at 6% on his investment in the stoker; depreciation $24; 7.5 tons of coal at $7.50 a ton; service costs $8; 108 kilowatt hours of electrical energy at 5¢ a kilowatt hour.

a What was Merrill's heating cost in 1937? [2]

b What was Merrill's heating cost in 1938? [4]

c What was the per cent of increase or decrease? [4]

12 Smith purchased ten $1000 railroad bonds bearing 5% interest, at $450 each, brokerage $2.50 a bond, and 40 shares of Eastern Electric stock at 42, brokerage 17¢ a share. The stock pays a quarterly dividend of 25¢ a share.

a Find the total cost of the bonds and stock. [5]

b Find Smith's annual income from these investments. [3]

c Find the rate of income to the *nearest tenth of a per cent.* [2]