The University of the State of New York

293D HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 23, 1945 — 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]

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3784
6952
3670
5931
9847
2768
5832
1359
4877
2975
4966
8742
3758
4647
5965
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b Make the extensions: [5]

45 yd @ $1.50   =

125 bu. @ 80¢   =

56 doz. @ $1.25   =

120 articles @ $7\frac{1}{2}$¢   =

1200 lb. @ $25 per ton =

c Compute the interest: [5]

$ 400 for 45 days at 3%   =

$ 150 for 36 days at 4%   =

$ 120 for 75 days at 5%   =

$1200 for 27 days at 6%   =

$ 240 for 3 months at 2% =

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

$2\frac{1}{2}$¢ per pound is equivalent to $...... per cwt.

$1\frac{3}{8}$% expressed as a decimal is ......

A motor priced at $75 was sold for $60. The rate of discount was ......%

48 increased by ......% of itself is 72.

$1\frac{1}{2}$ plus $\frac{3}{8}$ plus $\frac{3}{4}$ equals ......

27 is $\frac{3}{4}$ of ......

[2]

BUSINESS ARITHMETIC

Tuesday, January 23, 1945

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 Equipment costing $12,000 was valued at the end of 5 years at $4000. What is the amount of the average annual depreciation?

    b Candy bars bought at 96¢ a box (24 bars) are sold for 5¢ each. What is the per cent of profit on the cost?

    c Scott drives his car 12 miles in 18 minutes. What is his speed per hour?

    d A retailer receives an invoice for $350, terms 3/10 n/30. Find the net amount of the invoice if paid within 10 days.

    e A salesman receives a commission of 5% on his sales. In order to receive $150, what should be the amount of his sales?

4 The property in Newcastle is assessed for $9,850,000. The expenses for the year are estimated as follows: street improvements $18,600, salaries and wages $46,300, schools $102,500, sewers and drainage $7250, buildings $13,750, interest on bonded debt $1300.

    a Find the tax rate correct to the *nearest hundred-thousandth*. [7]

    b Express this rate per $1000. [1]

    c Find the tax on property valued at $8000 and assessed at 80% of its value. [2]

5 Halladay discounts today a customer's 3-month, 6% note for $826, dated December 16. The bank discount rate is 5%. Find the net proceeds of the note. [10]

6 Petrie receives 90¢ an hour for a regular 40-hour week, with time and a half for overtime. During a busy week he worked 10 hours a day, Monday through Saturday.

    a Find his total earnings for the week. [6]

    b If his employer deducted 1% for social security, 10% for war bonds and $7.80 for withholding tax, how much money did Petrie receive? [4]

7 Your father wishes to borrow $120. A finance company will lend him $120, charging 2% interest each month on the unpaid balance. He can borrow $120 from the bank, paying back $30 each month on the principal; the total interest and bank charges will be $2.50.

    a If he borrows $120 from the finance company and pays back $30 each month on the principal, what will be the total interest cost? [In your solution show the interest to be paid each month.] [8]

    b From which loan institution would it be better to borrow? How much better? [2]

8 Dodd desired to purchase a four-family apartment house in which each of the four tenants was paying $60 a month rent. He estimated the following annual expenses: taxes $645, insurance $35, depreciation and repairs $460, water bill $75, other expenses $195. What could he afford to pay for the apartment house to receive a net return of 7% on his investment? [10]

9 Young and Harrington invested $6000 and $12,000 respectively in a wholesale fruit business. The sales for the year 1944 totaled $28,450 and the following charges were incurred: cost of fruit sold $15,460, taxes $324, delivery expense $1240, wages and salaries $4800, miscellaneous expense $926.

    a Find the net profit of the partnership. [2]

    b The profit is to be shared in proportion to the respective investments. How much will Harrington receive as his share? [2]

    c If each partner were allowed 6% on his original investment, with the remaining profit to be shared equally, how much would Harrington receive as his total share of the profit? [6]

10 During November a hardware dealer sold 24 coal stoves at $125 each. The net cost of each stove was $87.50. In December the selling price was reduced to $117.50 and he sold 32 stoves. The overhead and selling expenses for each stove sold in November were $17.50 and in December $17.25.

    a How much profit did the dealer make during November? [2]

    b Was the profit increased or decreased during December [2]? How much [4]?

    c What was the rate of the increase or decrease? [2]

11 A coal dealer in Glen Cove buys stove coal at the mine at $7.85 per ton. The additional costs per ton are: freight $3.21, loading and depreciation $1.34, loss of weight $.16, sales and advertising $.47, salaries $.70, sundry expenses $.36. If the OPA permits him to sell the coal at $14.29 a ton, what will be his rate of profit on the selling price correct to the *nearest tenth per cent?* [10]

12 Kasius insured his house valued at $12,000 for $9600 at a rate of 35¢ per $100 for 3 years. The contents were insured for $3600 at 45¢ per $100 for 3 years.

    a Find the total average annual cost of carrying both policies. [8]

    b If the insurance agent received a commission fee of 20% of the premiums, what was the amount of his commission? [2]