The University of the State of New York

BUSINESS ARITHMETIC

Wednesday, August 24, 1960 — 12 m. to 3 p.m., only

Fill in the following lines:

Name of pupil..Name of school..

Instructions for Part I

Do not open this sheet until the signal is given.

All parts of the rapid calculation test are to be worked mentally and the *answers only* 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.

<u>All answers must be written with pen and ink.</u>

<u>Scrap paper may not be used, nor may computations be made on the question</u>

  <u>paper.</u>

RAPID CALCULATION TEST

—————

1 *a* Subtract: [2]

$$723\tfrac{1}{8}$$
$$467\tfrac{1}{4}$$

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

.674 expressed as a percent = ...

$\tfrac{3}{8}$ of 56 = ...

.125 expressed as a fraction in its lowest terms = ...

7.2 multiplied by 100 = ...

84 is $\tfrac{4}{5}$ of what number? ....

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

$650 for three months at 6% = $....................

$750 for 12 days at 6% = $....................

$600 for 88 days at 6% = $....................

$900 for 80 days at 5% = $....................

$1,500 for one year at 2% = $....................

d Make the extension for *each* of the following: [6]

30 yards at 10¢ per foot = $....................

3,000 pounds at $25 per ton = $....................

6 bushels at 66$\tfrac{2}{3}$¢ per bushel = $....................

12 ounces at $1 per pound (avoirdupois) = $....................

435 maps at $2 per C = $....................

10 gallons at 20¢ per quart = $....................

e Add: [2]

$ 17.28
47.13
2.57
146.22
.87
$

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Part I, 1 Rapid calculation test on attached sheet.   [20]

Part II

Answer any four questions from this part. Questions 2 and 3 require answers only. Record your answers on the question paper in the spaces provided. For all other questions selected from this part, all work must be shown.

2 Answer all parts of this question. [Answers only required.]   [10]

a An invoice for $578 dated May 26, 1960, has terms of $^2/_{10}$, $^1/_{20}$, $^N/_{30}$. For how much should a check be written if the invoice was paid on June 6, 1960?   *a*...............

b Find the single equivalent discount for a series of 25% and 20%.   *b*...............

c Mr. Burke renewed his three-month note at his bank, paying only the interest due. The face of the note was $1,150; the rate of interest, 5%. How much did Mr. Burke pay the bank on renewing his note?   *c*...............

d A real estate agent received $480 for selling a piece of property. What was the selling price of the property if the rate of commission received by the agent was 5%?   *d*...............

e Mr. Sands purchased a $1,000 $4\frac{1}{4}$% bond for $1,020 including brokerage. How much income will Mr. Sands receive from this investment each year?   *e*...............

3 Answer all parts of this question. Place your answer in the space provided on this question paper. [This is an accuracy test. One credit for each correct answer; no partial credit. Wherever necessary, reduce the answer to its simplest form.]   [10]

a Subtract 479.534 from 867.732   *a*...............

b Multiply 39.7 by 5.04   *b*...............

c Divide 64.16 by 8.02   *c*...............

d Add $6\frac{5}{6}$; $14\frac{2}{3}$; $3\frac{1}{3}$ *d*...............

e Multiply $10\frac{2}{3}$ by $3\frac{1}{2}$ *e*...............

f Divide $12\frac{1}{4}$ by $5\frac{1}{4}$ *f*...............

g Express 36 ounces in pounds and fractions of a pound (avoirdupois)   *g*...............

h Find 120% of 840   *h*...............

i Express 42 mills per dollar as a tax rate per $1,000 of assessed valuation   *i*...............

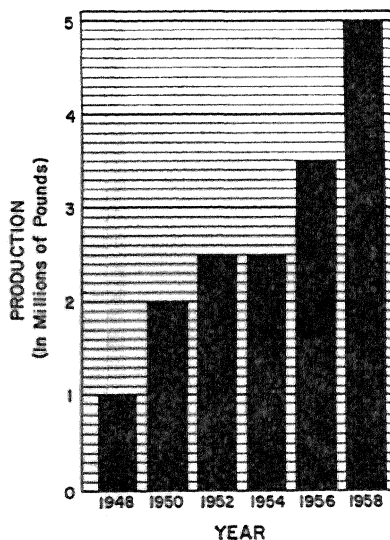*j* Subtract 8 hours 43 minutes from 14 hours 17 minutes   *j*...............

[3]

4 A retailer purchased an article for $12. Buying expense amounted to 50 cents. At what price must this article be sold in order to make a profit of 20% on the gross cost and allow 20% of the selling price for overhead? [10]

5 Bruce and Tarbox formed a partnership investing $10,000 and $8,000, respectively. The articles of copartnership provide for a division of profits as follows: "Mr. Tarbox is to receive $100 a month for his services; each partner is to receive 6% interest on his investment and the remainder of the profit is to be divided equally." The profit for the year 1959 was $12,600. What amount did each partner receive as his share of this profit? [10]

6 Mr. Hart owns a house valued at $20,000, which he insured for $12,000 under a fire insurance policy containing the 80% coinsurance clause.

  a The annual premium on Mr. Hart's policy is figured at the rate of 20 cents per $100 of insured value. The three-year rate for the same coverage is 2½ times the annual rate. Mr. Hart purchased a three-year policy. What was the *average annual cost* of the insurance? [6]

  b How much will Mr. Hart recover from the above policy containing the 80% clause if he has a fire loss of $4,000? [4]

Part III
Answer any four questions from this part. All work must be shown.

7 From the accompanying graph showing quantities of silicone rubber produced by the XYZ Corporation for the years 1948 through 1958, answer the following questions:

XYZ CORPORATION
Silicone Rubber Production
(In Millions of Pounds)

a How many pounds of silicone rubber were produced in 1950? [1]

b In what two-year period was the growth in pounds of production greatest? [2]

c How many more pounds of silicone rubber were produced in 1958 than in 1948? [1]

d The industrial value of silicone rubber is rated at $3 per pound. What was the dollar value of silicone rubber produced in 1958? [2]

8 Mr. March purchased a television console and radio combination for $595 on an installment plan contract. He was given a trade-in allowance of $103 for his old set as a down payment. Carrying charges of 6% on the unpaid balance and a service charge of $3.60 were then added. What will be the amount of each monthly payment if the set is to be paid for in one year? [6]

[4]   [OVER]

9 In a small community the amount of money needed for current expenses as shown in the budget for the coming year is $287,163.05. It is expected that $4,000 of this amount will be raised from fees and licenses. The assessed value of property in this community is listed at $8,646,200. What will be the rate of taxation in this community in order to raise the necessary funds? [Express your answer as the tax rate per dollar of assessed valuation. Carry your answer to five decimal places.] [6]

10 Mr. Bertrand is considering the purchase of a house with cash that he has available for investment purposes. The house that Mr. Bertrand is considering will rent for $90 per month. The taxes, insurance, maintenance and depreciation are estimated to be $450 per year. What is the maximum amount that Mr. Bertrand can pay for this house if he desires to receive 6% on his investment? [6]

11 George Smith, a stock boy in a retail store, had a job for which he was paid $1.40 per hour for 8 hours per day, 5 days per week, Monday through Friday. All overtime was paid for at time and a half. During a recent week George's time card showed the following hours worked:

Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
7 hrs.	8½ hrs.	9 hrs.	8 hrs.	8½ hrs.	4 hrs.

His payroll deductions were as follows: FICA Tax $2.02, disability insurance 30¢, New York State Withholding Tax 80¢, Federal Withholding Tax $9.80. What will be the amount of the take-home pay for the week? [6]

Part IV
Answer four questions from this part. All work must be shown.

12 Leonard Dodd's electric meter read 22,624 kilowatt hours on April 12, 1960. On May 12, 1960, the meter read 23,012 kilowatt hours. At an average cost of 4¾ cents per kilowatt hour, what was the amount of Mr. Dodd's electric bill for the month? [4]

13 What would be the balance in your savings account on January 2, 1961, if you deposited $600 in a bank December 31, 1959? Interest is added January 1 and July 1 of each year at the rate of 4% per annum. [Assume that no additional deposits or withdrawals are made.] [4]

14 Mr. Burke sent a consignment of 450 bushels of apples to a commission merchant for sale. The commission merchant sold the consignment at $2.10 per bushel. The expenses incurred were: storage $50; containers $65; commission 5%. What amount was remitted to Mr. Burke as proceeds from this transaction? [4]

15 On July 1, 1960, Mr. Charles Lane received his bank statement together with the canceled checks. The statement showed a balance of $1,320.50. The checkbook balance was $1,050.30. On comparing the returned checks with the checkbook, the following checks were found to be outstanding: $209; $63.20. It was also discovered that a service charge of $2 had been made by the bank. Reconcile the balances. [4]

16 Mr. Joseph Ryan purchased a new car on January 2, 1956, for $4,200. On January 2, 1960, he sold it for $840. What was the amount of the average annual depreciation on this car? [4]

[5]

FOR TEACHERS ONLY

BA

INSTRUCTIONS FOR RATING
BUSINESS ARITHMETIC

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Use only *red* ink or pencil in rating Regents papers. Do not attempt to *correct* the pupil's work by making insertions or changes of any kind. Use checkmarks to indicate pupil errors.

Part I — Rapid Calculation Test

1 Allow a total of 20 credits as indicated: [Allow no partial credit.]

a $255\frac{7}{8}$ [2]

b 67.4%   [1]
  21   [1]
  $\frac{1}{8}$ [1]
  720   [1]
  105   [1]

c $ 9.75   [1]
  $ 1.50   [1]
  $ 8.80   [1]
  $10.00   [1]
  $30.00   [1]

d $ 9.00   [1]
  $37.50   [1]
  $ 4.00   [1]
  $ .75   [1]
  $ 8.70   [1]
  $ 8.00   [1]

e $214.07   [2]

Part II

2 Allow a total of 10 credits, two credits for each correct answer. [Allow no partial credit.]

a $572.22   d $9,600.00
b 40%   e $42.50
c $14.38

3 Allow a total of 10 credits, one credit for each correct answer. [Allow no partial credit.]

a 388.198   f $2\frac{1}{3}$
b 200.088   g $2\frac{1}{4}$ lbs.
c 8   h 1,008
d $24\frac{17}{30}$ i $42
            j 5 hours 34 minutes
e $37\frac{1}{3}$

4 $18.75   [10]*

5 $5,760 Bruce
  $6,840 Tarbox   [10]*

[OVER]

6 $20   [6]*

  $3,000   [4]*

Part III

Allow 6 credits for each of four correct answers.

7 *a* 2 million pounds   [1]

  b 1956–58   [2]
  c 4 million pounds   [1]
  d $15,000,000   [2]

8 $43.76   [6]*

9 $.03275 per $1 (32.75 mills)   [6]*

10 $10,500   [6]*

11 $54.28   [6]*

Part IV

Allow 4 credits for each of four correct answers.

12 $18.43   [4]

13 $624.24   [4]*

14 $782.75   [4]*

15 Reconciliation will depend upon method used.   [4]*

16 $840   [4]*

* Unless otherwise directed, in parts II, III and IV of this examination partial credit may be allowed on questions to which *four* or more credits are assigned. [See pamphlet entitled *Suggestions on the Conducting of Examinations and the Rating of Regents Examination Papers in Business Subjects.*]