The University of the State of New York

# BUSINESS ARITHMETIC

Wednesday, June 21, 1961 — 1:15 to 4:15 p.m., only

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**Fill in the following lines:**

Name of pupil................................................Name of school.....................................................

Name of teacher...............................................................................................................................

### 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.

**All answers must be written with pen and ink.**

**Scrap paper may not be used, nor may computations be made on the question paper.**

# RAPID CALCULATION TEST

1 *a* Make the following extensions:    [5]

200 containers @ 12½¢ each        = $..................

20 quarts @ $1 per gallon         = $..................

2,500 board feet @ $20 per M      = $..................

20 ounces @ 80¢ per pound         = $..................

45 inches of ribbon @ $2 per yard = $..................

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

¼% expressed as a decimal is  ....................

20 increased by 40% of itself is ....................

A tax rate of $3.365 per $100 of valuation is equal to a rate of $....................
per $1,000 of valuation.

A 3% sales tax on a car which cost $3,000 is $....................

60 is 120% of what number? ....................

*c* Write the correct answer to *each* of the following in the space provided at the right.    [5]

15% of 3,998 is approximately (300; 400; 500; 600).    ....................

If an article which cost $40 is marked to sell at $50, the rate of
mark-up on selling price is (10%; 20%; 25%; 80%).    ....................

The latest date on which an invoice dated April 7, 1961, with terms
$^3/_{10}$, $^1/_{30}$, $^N/_{60}$, can be paid so as to receive the maximum cash discount
is (April 17; May 7; May 10; June 6).    ....................

64% expressed as a fraction in its lowest terms is
($\frac{64}{100}$; $\frac{32}{50}$; $\frac{16}{25}$; $\frac{4}{5}$).    ....................

At 20 cents per pound, the greatest number of pounds a person can
buy for $10 is (20; 50; 200; 500).    ....................

*d* Compute the interest on the following:    [5]

$1,000 for 120 days at 6%  = $..................

$600   for 137 days at 6%  = $..................

$900   for one year at 3%  = $..................

$6,000 for 15 days at 6%   = $..................

$1,200 for 90 days at 2%   = $..................

[2]

# BUSINESS ARITHMETIC

## Wednesday, June 21, 1961

Name of pupil........ ......... ............ ......... Name of school.... ...... .............. ... ...

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

The remaining sheets of this question paper should be handed in at the close of the examination.

## Part II

### Answer all parts of this question.  Answers only are required.

2 Write each answer in the space provided on the question paper. [*Work need not be shown.*]    [40]

a Add the following mixed numbers and show the total: $23\frac{5}{8}$; $6\frac{2}{3}$; $12\frac{1}{4}$; $17\frac{1}{6}$.

a...............

b Divide 285.8417 by 4.009.

b...............

c Subtract 3.45 from 14.73 and multiply the remainder by $3\frac{1}{8}$.

c...............

d A watch was marked to sell at $30 plus an excise tax of 10% and a local sales tax of 3%.  For how much should you write a check to purchase this watch?

d...............

e A typewriter cost $240.  After 8 years it had a trade-in value of $20. What was the amount of the average annual depreciation?

e...............

f A salesman was paid a commission of $480 for his services in selling a plot of ground.  What was the selling price of the plot if the commission was computed at the rate of 5%?

f...............

g In a local factory the hourly rate is $1.75 for regular time, with time and one-half being paid for all time worked in excess of 40 hours per week.  During a recent week an employee worked 48 hours.  What will be the total wages for this employee?

g...............

h On January 2, 1960, Mr. Crounse deposited $800 in a savings account which paid 3% interest per year compounded semiannually.  What was the balance in his account on January 2, 1961?

h...............

i What is the single equivalent discount of a series of 25% and 10%?

i...............

j On February 10, Mr. Graham discounted at the bank at 6% his 90-day noninterest-bearing note for $3,500, dated February 10.  How much did he receive as net proceeds?

j...............

[3]

*k* On March 1, 1961, Mr. Aker's gas meter read 48,721 cubic feet. On April 1, 1961, the meter reading was 57,221 cubic feet. At the rate of $1.17 per 1,000 cubic feet, what will be the amount of the gas bill for the month of March?

*k*...............

*l* Merchandise listed at $60 had a trade discount of 20%. What additional rate of discount would be necessary to sell the merchandise at $40?

*l*...............

*m* Mr. James can obtain $21 cash discount by borrowing $679 at 6% for 60 days. How much will he actually save by borrowing?

*m*...............

*n* Mr. Brown left Buffalo at 7:30 a.m. for New York City, a distance of approximately 441 miles, via the New York State Thruway. He arrived in New York City at 6:00 p.m. on the same day. If Mr. Brown used 1½ hours for rest stops enroute, what was his average speed in miles per hour while driving?

*n*...............

*o* Mr. Morgan purchased 10 shares of stock at 40 (brokerage and taxes included). What annual rate of income did he receive on his investment if the stock paid a regular quarterly dividend of 80 cents per share during the year?

*o*...............

*p* On April 20, 1961, Mr. Graham borrowed $3,000 on a promissory note. On June 16, 1961, he repaid the loan. For how many days did Mr. Graham pay interest?

*p*...............

*q* In 1950 Mr. Jarvis spent an average of $42 per week for food. In 1960 he spent an average of $52.50 per week for food. What was the percent of increase?

*q*...............

*r* John received the following marks in his studies: bookkeeping 85%; English 80%; science 90%; social studies 75%. What mark must John receive in business arithmetic in order to obtain an average of 85% in all his subjects?

*r*...............

*s* Mr. Krieger's taxable balance for determining his New York State income tax was $2,620. How much will his tax be if the first $1,000 is figured at 2% and the next $2,000 or part thereof is figured at 3%? [Do not consider any special credits.]

*s*...............

*t* When purchasing fire insurance, you discover that a three-year term policy can be purchased for 2.7 times the annual rate. According to this information, how much will the three-year premium be on a fire insurance policy for $4,000 issued at an annual rate of 24 cents per $100 valuation?

*t*...............

[4]

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

3  Mr. Evans has arranged to purchase a new refrigerator listed at $390. An allowance of $40 is being given Mr. Evans for his old refrigerator as a down payment. The conditional sales contract provides for 6% interest on the original unpaid balance and a service charge of $5.80. How much will the monthly payment be on a 12-month contract?     [6]

4  Mr. Stone purchased a two-family house with the intention of renting it as an investment. The total cost was $20,000 (land $5,000 and building $15,000). The taxes and insurance are estimated at $550 per year, repairs $200 and depreciation 3% of the cost of the building. Mr. Stone paid cash for the property. For how much must he rent *each* apartment per month in order to receive a net return of 6% on the investment?     [6]

5  Mr. Bourne sent a consignment of 200 bushels of apples to a commission merchant to sell. The commission merchant sold 68 bushels at $2.25 per bushel; 42 bushels at $2.05 per bushel and the remainder at $1.90 per bushel. The expenses of selling were: trucking $8.75; cost of containers $21.50; commission 10% for selling. What were the net proceeds of the transaction to Mr. Bourne?     [6]

6  Mr. Ames, Mr. Norton and Mr. Earle, partners in a wholesale business, invested $30,000, $15,000 and $5,000, respectively. The partnership agreement provides that each partner is to receive a salary of $500 per month plus a share in the remainder of the profit in proportion to the investment of each partner. The profit for 1960 was $28,600. How much did *each* partner receive for the year as his total share of the profit?     [6]
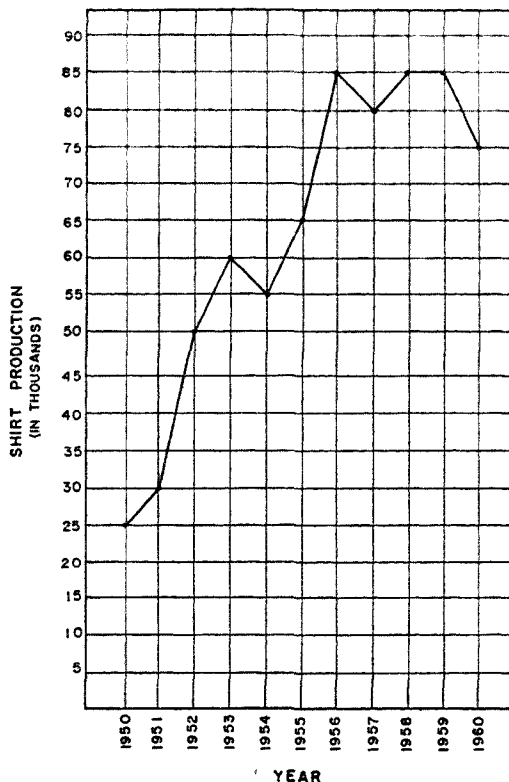
7  Fisher insured a storage warehouse, which he owned, for $9,000 with Company X, for $27,000 with Company Y and for $36,000 with Company Z. A fire loss of $50,000 occurred. What amount should Fisher collect from *each* of these insurance companies?     [6]

**Turn the page for part IV.**

## Part IV

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

Delta Shirt Manufacturing Company
Production Record
1950–1960

8 The production record of the Delta Shirt Manufacturing Company for the years 1950 through 1960 is shown on the graph. Answer *each* of the following questions relating to this graph.

a What was the number of shirts manufactured by the Delta Shirt Manufacturing Company in 1950?    [1]

b What was the decrease in number of shirts manufactured between the years 1953 and 1954?    [1]

c If, in 1956, the cost of manufacturing each shirt was $3, what was the total production cost of the shirts manufactured during that year?    [1]

d The company plans to increase its production in 1961 by 33⅓% over that of 1960. How many shirts will therefore be manufactured in 1961?    [1]



9 The cost of manufacturing a certain household item was as follows: labor $3.40; materials $3; overhead $2.80. The manufacturer desired to make a profit of 30% on his cost. An excise tax of 5% was added to the manufacturer's selling price. How much would a retailer have to pay for this item, including tax?    [4]

10 On April 30, 1961, Mr. Henry Hanson's checkbook balance was $832. On the same date the bank statement showed a balance of $628. The following checks were found to be outstanding: $52.80; $3.90; $4.20. The statement showed that the bank had deducted a service charge of $4.02. It was also discovered that a deposit of $260.88 had been mailed to the bank too late to be recorded on the April statement. Prepare a reconciliation statement and indicate the correct available checkbook or bank balance.    [4]

11 Mr. Ross owns a house and lot valued at $22,000 in a community where property is assessed at 45% of its true value. The rate of taxation in the current year is $3.527 per $100 of assessed value. How much will Mr. Ross have to pay as his tax on this property, to the *nearest cent?*    [4]

12 Mr. Harvey operates a retail store. His sales for the year were $65,750. The cost of the goods which he sold was $47,225. His operating expenses amounted to $10,635. His net profit was what *percent* of the sales for the year?    [4]

[6]

# FOR TEACHERS ONLY

## BA
### INSTRUCTIONS FOR RATING
### BUSINESS ARITHMETIC
Wednesday, June 21, 1961 — 1:15 to 4:15 p.m., only

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, one credit for each of the following: [Allow no partial credit.]

*a* $25.00
$ 5.00
$50.00
$ 1.00
$ 2.50

*b* .0025
28
$33.65
$90.00
50

*c* 600
20%
April 17
$$\frac{16}{25}$$
50

*d* $20.00
$13.70
$27.00
$15.00
$ 6.00

### Part II

2 Allow a total of 40 credits, two credits for each of the following: [Allow no partial credit.]

*a* $59\frac{17}{24}$
*b* 71.3
*c* 35.25
*d* $33.90
*e* $27.50
*f* $9,600.00
*g* $91.00
*h* $824.18
*i* 32.5% (or $32\frac{1}{2}$%)
*j* $3,447.50

*k* $9.95
*l* $16\frac{2}{3}$%
*m* $14.21
*n* 49 m.p.h.
*o* 8%
*p* 57
*q* 25%
*r* 95%
*s* $68.60
*t* $25.92

[OVER]

## Part III

Allow 6 credits for each of four correct answers.

3 $31.40*

4 $100.00*

5 $338.84*

6 $12,360 Ames
$ 9,180 Norton
$ 7,060 Earle*

7 $ 6,250 Company X
$18,750 Company Y
$25,000 Company Z*

## Part IV

Allow 4 credits for each of four correct answers.

8 *a* 25,000    [1]
  *b* 5,000     [1]
  *c* $255,000  [1]
  *d* 100,000   [1]

9 $12.56*

10 Reconciliation will depend upon method used.  $827.98 is the available checkbook or bank balance.*

11 $349.17*

12 12%*

*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.*]