The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

# BUSINESS ARITHMETIC

Tuesday, January 20, 1959 — 9:15 a.m. to 12:15 p.m., only

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**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>

[1]                                                                                          [OVER]

# RAPID CALCULATION TEST

1 *a* Subtract     [2]

    1082
    5064

*b* Add     [2]

    $11.08
    59.62
    .79
    76.04
    20.11
    7.41

*c* Complete *each* of the following statements:     [5]

47% expressed as a decimal is ....     .....................

64 increased by $12\frac{1}{2}$% of itself is ....     .....................

487.9 divided by 1,000 is ....     .....................

.375 expressed as a fraction in lowest terms is .... .....................

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

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

$250 for 90 days @ 6%    = $....................

$1,500 for 1 year @ 4%    = $....................

$450 for 4 months @ 5%    = $....................

$385.50 for 60 days @ 6%    = $....................

$60 for 38 days @ 3%    = $....................

*e* Make the following extensions:     [6]

27 bushels @ $33\frac{1}{3}$¢ per bushel = $....................

20 pounds @ 25¢ per pound    = $....................

3,000 pounds @ $28 per ton    = $....................

72 crates @ $62\frac{1}{2}$¢ per crate    = $....................

$\frac{2}{3}$ pound @ 60¢ per pound    = $....................

6 quarts @ 32¢ per gallon    = $....................

[2]

# BUSINESS ARITHMETIC

### Tuesday, January 20, 1959

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

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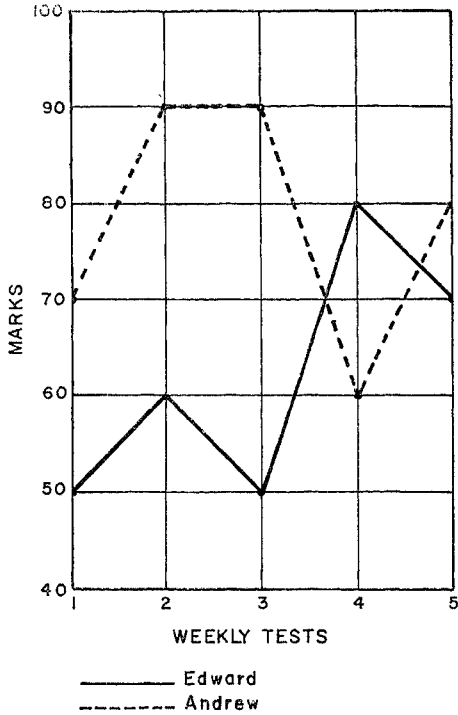**Answer any four questions from this part.  All work must be shown.**

2  Answer all parts of this question.    [10]

  *a*  What single rate of discount is equivalent to a discount series of 35% and 10%?

  *b*  Candy bars purchased at 45 cents per dozen were sold for 7 cents each.  How much was gained in selling 10 dozen of these candy bars?

  *c*  In 1957, Mrs. Smith's monthly food bill averaged $120.  In 1958, it averaged $138.  By what percent did it increase?

  *d*  An automobile costing $2,600 had a trade-in value of $700 after being used for four years. What was the amount of the average annual depreciation on the automobile?

  *e*  Brown's electric meter read 12,791 kilowatt hours on September 1.  Two months later it read 12,973 kilowatt hours.  If the cost per kilowatt hour was $6\frac{1}{2}$ cents, what was the cost of Brown's electricity for the two-month period?

3  Answer all parts of this question.    [This is an accuracy test.  One credit for each correct answer; no partial credit; no credit allowed unless work is shown.  Wherever necessary, reduce the answer to simplest form.]    [10]

  *a*  Add $12\frac{1}{5}$; $9\frac{1}{2}$; $7\frac{1}{4}$

  *b*  Multiply $60\frac{2}{3}$ by $9\frac{1}{5}$

  *c*  Divide $11\frac{1}{3}$ by $4\frac{1}{4}$

  *d*  Add 19.3; 61.05; 5.467; .09

  *e*  Subtract $1,198.41 from $2,802.17

  *f*  Divide 186.84 by 34.6

  *g*  Multiply 94.3 by 3.09

  *h*  Express $\frac{2}{3}$ as a percent correct to the *nearest tenth of a percent*

  *i*  Find 140% of 68

  *j*  Express $16\frac{3}{4}$ as it should appear according to good business usage

4  A grocer buys 5 crates of fresh eggs (30 dozen to the crate) at $15 per crate.  Express charges are $2.90.  The grocer estimates that 5 dozen will be broken and have to be thrown away.  At what price per dozen, to the *nearest whole cent,* must he sell the remainder in order to gain a profit of 30% on the total cost of the eggs?    [10]

5  Harris, a salesman, is employed on an eight-hour-per-day basis, with time and a half for all overtime beyond eight hours per day.  His regular pay rate is $1.80 per hour.  Last week he worked the following hours:

| | |
|---|---|
| Monday | 8 hours |
| Tuesday | 7 hours |
| Wednesday | 10 hours |
| Thursday | 8 hours |
| Friday | 10 hours |

From Harris' total earnings, $2.03 was deducted for the F.I.C.A. Tax (Social Security).  In addition, $12.30 was deducted for Federal Withholding Taxes.  What amount of money did he receive as take-home pay for the week, after these deductions had been made?    [10]

[3]

6 A teacher kept a record of the arithmetic marks of two of her pupils, Edward and Andrew, over a five-week period. Using the information shown on the graph, answer the following questions:

**ARITHMETIC MARKS
FOR EDWARD AND ANDREW
FOR THE FIVE-WEEK PERIOD ENDING
DECEMBER 19, 1958**



WEEKLY TESTS

————— Edward
———————— Andrew

*a* What was the *highest* mark made by Edward during the five weeks? [1]

*b* What was the *lowest* mark made by Andrew during the five weeks? [1]

*c* On which weekly tests did Andrew score the same mark? [1]

*d* How many points higher was Andrew's best mark than Edward's best mark? [1]

*e* Find Edward's average mark for the five tests. [2]

*f* Find Andrew's average mark for the five tests. [2]

*g* How many points higher was Andrew's average for the five tests than Edward's average for the same tests? [2]

[4]                    [OVER]

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

7 On December 31, 1958, Richard Johnson's checkbook balance was $838. His bank statement on that date showed a balance of $685.15. Checks for $32.25 and $57.40 were outstanding. A deposit of $240, made by mail, had not been received by the bank in time to be included on the statement. Enclosed with the bank statement was a service charge slip for $2.50, which the bank had deducted from Mr. Johnson's account. Prepare a reconciliation statement, indicating the correct available checkbook or bank balance. [6]

8 Davis offers to sell merchandise at $1,280 less 15% and 10%. Jacobs offers to sell similar merchandise for $975, terms $^2/_{10}$, $^N/_{30}$. Assuming that the customer will pay cash for the goods, which is the better offer, and how much better? [6]

9 Baker, a farmer, sent 450 bushels of apples to a commission merchant to be sold. The agent sold the apples for $1,350. He charged Baker 25 cents per bushel commission. Freight and storage amounted to $45. What was the average price per bushel received by Baker for these apples? [6]

10 On December 13 Gordon was in need of cash, and decided to discount Ward's two-month, noninterest-bearing note for $850, dated November 15. The rate of discount was 6%. What were the net proceeds of this note? [6]

11 A collection agent remitted to his principal $380 after deducting 5% for collecting an account.
*a* What was the amount collected? [4]
*b* Prove your answer. [2]

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

12 A wristwatch is priced for cash sale at $48.60. On the installment plan the terms are $5 down and $1.65 a week for 30 weeks. How much more money would an installment buyer pay for this watch than would a cash buyer? [4]

13 A building was insured in two companies as follows: the National Company, $12,000; the Mutual Company, $8,000. What would be the National Company's share of a fire loss amounting to $1,820? [4]

14 Shepard, a farmer, incurs the following expenses in producing a crop of 450 bushels of tomatoes: plants, $42.15; fertilizer, $56.40; labor, $90.70; spraying, $16.35; equipment rental, $18.30; other expenses, $5.60. What was the production cost per bushel? [4]

15 The tax rate for the support of the schools in Fairview is $37.92 per $1,000 of assessed valuation. How much school tax will Willard have to pay if his property is valued at $12,800 and is assessed at 80% of its value? [4]

16 What monthly rental must be charged for a store purchased for $9,500 to realize an income of 8% on the original investment if the annual expenses are as follows: taxes, $365.50; repairs and depreciation, $460; insurance, $34.50? [4]

[5]

# FOR TEACHERS ONLY

## BA

INSTRUCTIONS FOR RATING
BUSINESS ARITHMETIC
Tuesday, January 20, 1959 — 9:15 a.m. to 12:15 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 check marks to indicate pupil errors.

### Part I — Rapid Calculation Test

1 Allow a total of 20 credits as indicated:

a  $575\frac{6}{7}$      [2]

b  $175.05      [2]

c      .47     [1]
   72          [1]
      .4879    [1]
         $\frac{3}{8}$    [1]
   48          [1]

d  $ 3.75      [1]
   $60         [1]
   $ 7.50      [1]
   $ 3.86      [1]
   $  .19      [1]

e  $ 9        [1]
   $ 5        [1]
   $42        [1]
   $45        [1]
   $  .24     [1]
   $  .48     [1]

### Part II

2 Allow a total of 10 credits, two credits for each correct answer. [Allow no partial credit.]
   a  41.5%
   b  $3.90
   c  15%
   d  $475
   e  $ 11.83

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

a  $28\frac{19}{20}$

b  $558\frac{2}{15}$

c  $2\frac{2}{3}$

d  85.907
e  $1,603.76
f  5.4
g  291.387
h  42.9%
i  95.2
j  $16.75

[OVER]

4 70¢     [10]

5 $66.67     [10]

6 Allow a total of 10 credits as indicated:

    *a* 80        [1]
    *b* 60        [1]
    *c* 2 and 3    [1]
    *d* 10        [1]
    *e* 62        [2]
    *f* 78        [2]
    *g* 16        [2]

## Part III

Allow 6 credits for each of four correct answers.

7 Reconciliation will depend upon method used.
$835.50 is correct available checkbook or bank balance.

8 Jacobs' offer is better by $23.70.

9 $2.65

10 $845.32

11 *a* $400
   *b* $400 less 5% = $380

## Part IV

Allow 4 credits for each of four correct answers.

12 $5.90

13 $1,092

14 $.51

15 $388.30

16 $135