BUSINESS ARITHMETIC

Tuesday, January 24, 1956 — 9.15 a.m. to 12.15 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

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1-2 *a* Make the following extensions: [5]

375   bushels at 10¢ per bushel   = $————

650   pounds at $4 per cwt.   = $————

15   gallons at 20¢ per quart   = $————

12½ pounds at 48¢ per pound   = $————

120   bushels at $1.50 per bushel   = $————

b Compute the interest: [5]

$450 for 30 days at 6%   = $————

$2786 for 6 days at 6%   = $————

$660 for 20 days at 3%   = $————

$800 for 60 days at 1½% = $————

$480 for 15 days at 5%   = $————

c Complete *each* of the following statements: [6]

If an article costing $50 must be sold for $30, the per cent of loss, based on the cost, is ———— %.

⅕% of $525 is $————.

.2874, expressed as a per cent to the *nearest whole percent*, is ———— %.

At 25¢ per article, we can buy ———— articles for $24.

8⅓% more than $360 is $————.

4786.3 divided by 1000 is ————.

d Add: [4]

$ 386.55
14.02
112.94
.86
76.00
49.78
506.93
.21
11.09
50.83
————
$

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Tuesday, January 24, 1956

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 time requirement is four or five recitations a week for a school year.

Answer questions 1–2 in Part I, four questions from Part II, four questions from Part III and four questions from Part IV. Unless otherwise stated, all operations except mental ones are to be shown written in ink. Practical business methods must be used in solutions.

Part I, 1–2 Rapid calculation test on attached sheet. [20]

Part II
Answer any four questions from this part.

3 Answer all parts of this question. [Two credits for each correct answer; no partial credit.] [10]

a Candy bars costing 36¢ per dozen are sold for 5¢ each. How much profit would be made by selling 14 dozen of these bars?

b Johnson is billed $375 for a purchase. If he pays within 10 days, he needs to pay only $363.75. What per cent of cash discount does he earn?

c An article is now selling for $80 less 25%. What additional per cent of discount must be given to reduce its price to $48?

d On October 15, White discounted at his bank a customer's four-month promissory note dated September 12. For how many days did the bank charge him discount?

e Watts owns a house and lot assessed at $7500. The tax rate for 1955 in his community was $27.80 per $1000. What was the amount of Watts' tax bill for 1955?
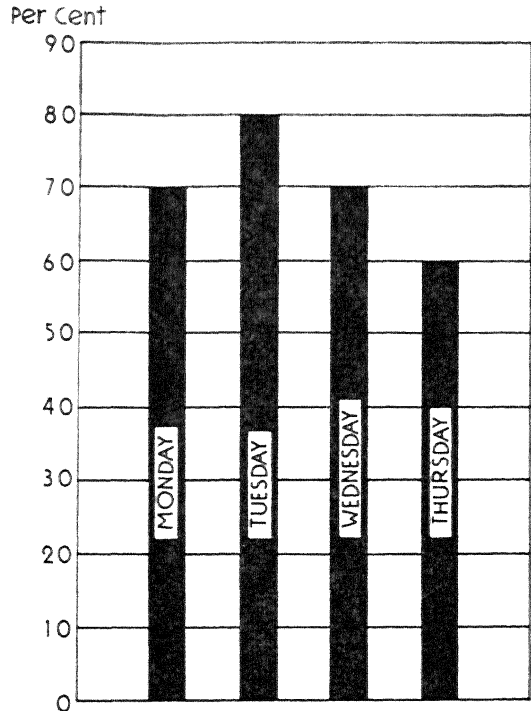
4 Answer all parts of this question. [This is an accuracy test. One credit for each correct answer; no partial credit; no credit allowed unless work is shown. Wherever necessary, reduce the answer to simplest form.] [10]

a Subtract 319.64 from 875.1

b Multiply 410.8 by 37.6

c Divide 109.71 by 5.3

d Add: $8\frac{5}{8}$; $11\frac{1}{3}$; $6\frac{3}{4}$; $14\frac{1}{2}$

e Subtract $5\frac{1}{3}$ from $19\frac{1}{4}$

f Multiply $18\frac{1}{2}$ by $8\frac{1}{3}$

g Divide $66\frac{1}{2}$ by $2\frac{1}{3}$

h Change 4 yards, 2 feet, 7 inches to inches.

i Express 76% as a fraction in simplest form.

j Express $18\frac{2}{3}$ as it should appear according to good business usage.

[3]

5 For the first four days of a school week John Williams took a test each day, and received the marks shown on the bar graph below. Using the information given, answer the following questions:

DAILY TEST MARKS
OF JOHN WILLIAMS
MONDAY — THURSDAY

a What was John's mark on Wednesday?   [1]

b What was his highest mark for the entire four days shown on the graph?   [1]

c On what two days did he receive the same mark?   [2]

d What was his average mark for the four days?   [2]

e John wishes to have an average mark of 75% for the entire five school days in the week. What mark will he need to receive on Friday in order to obtain this average?   [4]*

Per Cent

90
80
70
60
50
40
30
20
10
0

MONDAY   TUESDAY   WEDNESDAY   THURSDAY

6 Dalton, a factory worker, 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 $1.75 per hour. Last week he worked the following hours:

Monday .... 9 hours
Tuesday .... 10 hours
Wednesday .... 6 hours
Thursday .... 8 hours
Friday .... 9 hours

From Dalton's total earnings, 2% was deducted for the F.I.C.A. tax (Social Security). In addition, $10.50 was deducted for federal withholding taxes. What amount of money did he receive as " take-home " pay for the week, after all deductions had been made?   [10]*

7 Kelsey, a salesman, receives a salary of $40 per week, and a commission of 10% on that part of his sales in excess of a weekly quota of $300. During a recent three-week period, his sales were as follows:

First week $350
Second week 280
Third week 385

What were Kelsey's *total average earnings* per week for the period listed?   [10]*

[OVER]

Part III
Answer any four questions from this part.

8 Wilkins, a wholesale appliance dealer, bought a television set for $450 less $16\frac{2}{3}\%$. His operating expenses amount to 14% of his sales. At what price should he sell this television set in order to make a net profit of 11% of its selling price? [6]*

9 Holden bought a washing machine for $290. He estimated that it would be used for 8 years, after which time its trade-in value would be $30. What would be the estimated value of this washing machine after it had been used for 5 years? [6]*

10 Wheelock purchased 20 shares of stock for a total cost of $1580, including brokerage and other expenses. He kept this stock for three years, during which time he received a regular semi-annual dividend of $2.75 per share. He then sold the stock, and received $1760 after brokerage and other expenses had been deducted. What was his total gain from owning and selling this stock? [6]*

11 Brooks and Thomas are partners, with investments of $55,000 and $25,000 respectively. Their partnership agreement states that all profits are to be shared as follows:

Each partner is to receive 5% interest annually on his investment.
All remaining profit is to be shared equally.

Last year the firm made a net profit of $16,900. What is the amount of each partner's share of this net profit? [6]*

12 On December 1, 1955, Moulton's checkbook showed a balance of $812.70. His bank statement on that date showed a balance of $793.94. Checks outstanding were for $10.95; $31.00; $14.29. A slip enclosed with the cancelled checks showed that his account had been charged $75 for a United States Savings Bond bought for him by the bank. Prepare a reconciliation statement, indicating Moulton's correct available checkbook or bank balance. [6]*

Part IV
Answer any four questions from this part.

13 What single per cent of discount is equal to a series of discounts of 25%, 20%, and 10%? [4]*

14 Prescott insured his apartment building for $24,000 with Company A and for $16,000 with Company B. A fire loss of $14,500 occurred. What amount of money should Prescott collect from *each* of these two insurance companies? [4]*

15 Donovan is offered a refrigerator for $325 cash. If he buys this refrigerator on the install-ment plan, he must make a down payment of $80 and 12 equal monthly payments of $25 each. By what per cent does the installment price exceed the cash price, to the nearest *tenth of a per cent*? [4]*

16 On January 2, 1954, Waite opened a savings bank account with a deposit of $3000. The bank paid interest at the rate of 2% per year. This interest was added to the account every six months. How much money did Waite have on deposit in the bank one year after the date of opening his account, if he made no additional deposits and no withdrawals during that time? [4]*

17 Westcott employed a commission merchant to buy merchandise for him. The merchant spent $2650, and charged Westcott 8% commission. Trucking and other expenses connected with the transaction amounted to $17.90. What total cost did Westcott pay to obtain this merchandise? [4]*

To the teacher: One half the number of credits should be deducted for each different error in method. [No credit should be allowed for a solution that contains an error in method and an error in computation.]