

The University of the State of New York

302D HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 27, 1948 — 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 *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.

This is a mental test — scrap paper may not be used.

RAPID CALCULATION TEST

1-2 a Make the extensions: [5]

b Compute the interest: [5]

240 bu. at $87\frac{1}{2}\phi$ per bu. = \$

\$842 for 60 days at 3 % = \$

1500 lb. at \$12 per ton = \$

\$318 for 30 days at 2 % = \$

350 lb. at \$6 per cwt = \$

\$ 60 for 47 days at 6 % = \$

18 ft at \$1.50 per yd = \$

\$250 for 90 days at 4 % = \$

$12\frac{1}{2}$ lb. at 72ϕ per lb. = \$

\$480 for 20 days at $4\frac{1}{2}\%$ = \$

c Underline the correct answer for *each* of the following: [4]

$\frac{3}{4}$ equals ($33\frac{1}{3}\%$; $66\frac{2}{3}\%$; 75%; 150%)

$1\frac{1}{4}\%$ of \$1600 is (\$16; \$20; \$160; \$2000)

A \$30 coat is reduced in price to \$25. The rate of markdown is (5%; $16\frac{2}{3}\%$; 20%; $83\frac{1}{3}\%$)

40 increased by 20% of itself is (20; 32; 48; 60)

d Add: [4]

e Subtract: [2]

\$ 79.46

32.15

8.43

19.78

2.12

56.14

20.66

85.31

11.06

29.53

\$

1193

307 $\frac{1}{8}$

BUSINESS ARITHMETIC

Tuesday, January 27, 1948

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 and eight of the others. Unless otherwise stated all operations except mental ones are to be shown written in ink. 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 A ticket sold for \$.96. This price included a 20% federal tax on admissions. What was the price of admission, before the tax was added?
- b A 60-day promissory note was dated September 18. What was its due date?
- c A table that cost \$30 sold for \$35.40. The gain was what per cent of the cost?
- d Williams, a salesman, receives a commission of 8% on all sales. In December he earned \$250 in commissions. What was the total of his sales for that month?
- e Judson's bank statement shows a balance of \$819.62. Checks for \$19.73, \$210.18 and \$11.44 are outstanding. What is Judson's correct bank balance?

4 a During the year 1947, the Higbee and Allen Company sold goods for \$210,929. The cost of the goods sold was \$160,657. Expenses consisted of wages and salaries \$11,684, depreciation and loss on bad debts \$1827, office expenses \$5729, taxes \$7962. What was the net profit? [4]*

b Higbee's investment in the firm was \$80,000 and Allen's was \$40,000. How much would Higbee receive as his share of the profit if it were shared in proportion to the partners' investments? [6]*

5 Groves hired a commission merchant to buy butter for his wholesale business. The merchant bought 1600 lb. at 62¢ per lb., 1500 lb. at 58¢ per lb., and 1100 lb. at 60¢ per lb. The rate of commission he charged Groves was 6%. Trucking charges were \$11.50 and refrigeration \$16. What was the average total cost per pound that Groves paid for the butter? [Answer to the nearest tenth of a cent.] [10]

6 a On October 20, Pierce bought goods for \$1150 less 10%, terms $\frac{2}{10}$ $\frac{n}{30}$. What amount will he have to pay to settle this invoice on October 29? [4]*

b In order to get sufficient funds to pay the bill and deduct the cash discount, Pierce borrowed the necessary amount from the bank on his 20-day 6% note. How much will he have to pay the bank when his note is due? [4]*

c How much did Pierce save by borrowing money and paying the bill on October 29? [2]

7 a Lister bought 80 shares of preferred stock for \$7200, including brokerage and other expenses. He kept the stock for a year, during which time he received quarterly dividends of \$1.25 per share. At the end of that time, he sold the stock and received \$7840 after brokerage and taxes had been deducted. What was Lister's total gain on the stock? [6]*

b A chair costs \$24. The merchant's expenses average 25% of his sales. At what price should the chair be sold to yield a net profit of 15% on the selling price? [4]*

- 8 *a* On January 2, 1946, King opened a savings account of \$300 with the United Savings Bank. The bank pays interest at an annual rate of 2%. [Interest is added to the account on July 1 and on January 2 of each year.] On January 2, 1947, King deposited \$150 additional in this account. How much money, including interest, did he have in the account on July 1, 1947? [6]*
- b* A delivery truck that costs \$2400 is estimated to have a trade-in value of \$600 five years later. What will be the estimated value of the truck at the end of its third year of use? [4]*
- 9 *a* Milford's store building is valued at \$15,000. He wishes to insure it for \$10,000 under a policy carrying an 80% coinsurance clause. The annual rate for this policy is 18¢ per \$100. What amount would Milford pay for one year's protection? [2]
- b* If a three-year policy costs $2\frac{1}{2}$ times as much as a one-year policy, how much would Milford save by buying a three-year policy instead of three separate one-year policies? [4]*
- c* In case a fire loss of \$5400 occurred in Milford's building, how much would the insurance company pay him for his loss? [4]*

10 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. Reduce each answer to its simplest form.] [10]

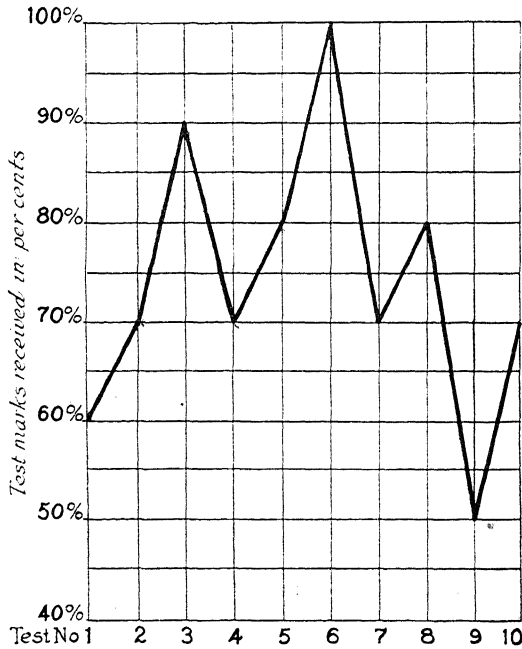
- a* Divide 62.156 by 3.79
- b* Subtract 84.359 from 192
- c* Add $5\frac{1}{4}$; $3\frac{2}{3}$; $8\frac{1}{5}$
- d* Divide 38 by $\frac{1}{2}$
- e* Using the four-step process, multiply $52\frac{1}{8}$ by $12\frac{1}{4}$
- f* Multiply 552 by \$5.90
- g* Express $\$10\frac{1}{4}$ as it should appear as an answer in accordance with good business usage.
- h* Subtract $159\frac{7}{8}$ from $259\frac{1}{4}$
- i* Add 89 plus 101.6 plus .1745 plus .02 plus .327
- j* Multiply .978 by .6591

11 Write the letters *a*, *b*, *c*, *d*, *e* in a column on your answer paper. After *each* letter write *true* if the corresponding statement below is correct; if the statement is false, write the amount that should be substituted for the underscored amount to make the statement correct. [Two credits will be deducted for each incorrect answer.] [10]

- a* The exact number of days from October 17 to December 12 is 56.
- b* Discounts of 25% and 20% are equivalent to a single discount of 45%.
- c* A tax rate of 25.7 mills on \$1 is equivalent to a rate of \$25.70 per \$1000.
- d* A radio may be bought for \$125 cash, or by making 12 monthly payments of \$11 each. The instalment price exceeds the cash price by \$14.
- e* Jones worked 44 hours, receiving \$1.50 per hour for the first 40 hours and time-and-a-half for overtime. His gross earnings were \$66.

12 The graph below shows the marks received by Henry Tilden in 10 tests in bookkeeping.

Marks Received by Henry Tilden
in Ten Bookkeeping Tests



Using the information shown on the graph, answer the following questions:

- a What was Henry's mark on test 5? [1]
- b What was the number of the test on which he made the lowest mark? [1]
- c What was the difference between the marks obtained on tests 1 and 5? [1]
- d What was the difference between the marks obtained on tests 4 and 6? [1]
- e Compute Henry's average mark for all 10 tests. [Show all calculations.] [6]*

* *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.]