

The University of the State of New York
300TH HIGH SCHOOL EXAMINATION
BUSINESS ARITHMETIC

Tuesday, June 17, 1947 — 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 Complete the following table of school registration: [4]

School	Boys	Girls	Total
Union High School	397	352	
Union Grade School	302	291	
Union Nursery School	169	159	
Totals			

b Make the extensions: [5]

- 87 bu. at $33\frac{1}{2}\phi$ per bu. = \$
- 56 crates at $37\frac{1}{2}\phi$ per crate = \$
- 1500 lb. at \$24 per ton = \$
- 250 lb. at \$8 per cwt = \$
- $16\frac{2}{3}$ yd at 72ϕ per yd = \$

c Complete the following statements: [6]

- .0974 expressed as a per cent is _____%.
- .125 expressed as a fraction in its lowest terms is _____.
- An article marked \$20 is sold for \$16. The rate of discount is _____%.
- $\frac{1}{8}\%$ of \$960 is \$_____.
- At 20ϕ each, we can buy _____ articles for \$2.40.
- 80 is $\frac{1}{4}$ greater than _____.

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

- \$812 for 4 months at 6% = \$
- \$560 for 30 days at 3% = \$
- \$720 for 60 days at 5% = \$
- \$1600 for 2 months at $4\frac{1}{2}\%$ = \$
- \$60 for 78 days at 2% = \$

BUSINESS ARITHMETIC

Tuesday, June 17, 1947

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 typewriter that cost \$85 in 1942 had a trade-in value of \$47.60, after being used 4 years. Find the average annual depreciation on it.
 - b Rulers purchased at 80 cents a dozen were sold for 8 cents each. What was the per cent of gain based on the selling price?
 - c Wells & Company sell chairs for \$50 less 25%. What additional rate of discount must be given to reduce the selling price to \$30?
 - d At a special sale, a table sold for \$60 after a discount of 20% had been deducted. What was the former selling price?
 - e A bill for \$875, dated November 9, had terms of $\frac{5}{10}$, $\frac{2}{30}$, $\frac{11}{60}$. Find the amount needed to pay the bill on December 8.
- 4 a On March 1, John Willoughby's checkbook balance was \$560.10 and his bank statement balance was \$831.26. Among his canceled checks there is a service charge slip of \$2.73. Upon comparing the canceled checks with the checkbook, he found a check for \$97.89 had been issued but not cashed. The deposit of February 15, for \$176.00, had been omitted from the checkbook. Reconcile these figures and indicate the correct available checkbook or bank balance. [6]*
- b Mrs Davis can buy a washing machine for \$100 cash or on the deferred payment plan, paying \$40 down and five monthly instalments of \$15 each. By what per cent does the instalment price exceed the cash price? [4]*
- 5 Mr Layton bought a house last year for \$9600. He paid \$5100 in cash and gave a 5% mortgage for the balance.
- a What is the annual cost to Mr Layton for interest on the mortgage? [2]
 - b The tax rate in the community this year is \$27.50 per \$1000. If the house is assessed at 80% of value, what will be the amount of the tax on Mr Layton's house? [4]*
 - c In addition to taxes and interest, Mr Layton's other operating expenses are \$172 during the year. If he rents the house at \$70 per month, what is the annual rate of net income on his investment, to the nearest *tenth* of a per cent? [4]*
- 6 a An electric appliance dealer buys refrigerators for \$180 less 20% and $16\frac{2}{3}\%$. At what price must he sell each refrigerator in order to make a net gain of 25% on the selling price, if his overhead expenses average 15% of his sales? [6]*
- b Jones worked 38 hours in a certain week. His rate of pay was 90 cents an hour. Deductions from his earnings were as follows: 1% for federal old-age benefits, \$4.10 federal income tax, \$4.47 for hospitalization. What amount should he receive after all deductions have been made? [4]*

BUSINESS ARITHMETIC — *concluded*

7 A farmer sent to his commission merchant 850 bushels of potatoes to be sold. The agent sold 350 bushels at \$1.75 per bushel, 275 bushels at \$1.50 per bushel and the remainder at \$1.30 per bushel. He deducted 5% commission on sales, \$18.50 for freight charges and 1½ cents per bushel for storage. Find the amount remitted to the farmer. [10]

8 On June 12, 1947, Fred Harper discounted at his bank a customer's 90-day promissory note for \$500 with interest at 5%. The note was dated May 19, 1947. The bank charged 6% discount.

a When does the note fall due? [2]

b What amount will the maker of the note have to pay on the date the note falls due? [2]

c How much did Harper receive as the net proceeds of the note on June 12? [6]*

9 Stevenson, Adams and Riley are partners in a retail furniture store, with investments of \$25,000, \$35,000, and \$40,000 respectively. In 1946 the firm made a net profit of \$14,910.

a What would Stevenson receive as his share of the net profit for the year if it were divided equally among the three partners? [2]

b What would Stevenson receive as his share of the net profit for the year if it were shared in proportion to each partner's investment? [4]*

c What would Stevenson receive as his total income from the business if the partners decided to allow a 6% return on their investments and to divide the remainder of the net profit equally? [4]*

10 a Frank Horton has a fire insurance policy for \$5000 on his store building with the Star Insurance Company and another policy for \$7000 on the same building with the Comet Insurance Company. A fire in the building caused a loss of \$7224. Calculate the amount of this loss that will be paid by the Star Insurance Company, assuming that losses are shared proportionately between the two companies. [4]*

b Miles Smith insures his home, worth \$9000, for \$6000, with a policy carrying an 80% coinsurance clause. In case a fire causes a loss of \$3300, how much will the insurance company pay Mr Smith? [6]*

11 Thomas Evans is offered two positions as a salesman. The Black Company will pay him \$50 a week salary and 5% commission on all his sales in excess of \$200. The White Company offers him 15% on all sales up to and including \$250, and 20% on all sales in excess of that amount. Mr Evans accepts the offer of the Black Company. His record for the first week shows sales of \$375.

a Find the amount of his earnings for the week with the Black Company. [4]*

b If he had accepted the offer of the White Company and had been able to make the same amount of sales, what would his earnings have been? [6]*

12 Answer all parts of this question. [10] [Two credits for each correct answer; no partial credit; no credit allowed unless work is shown. Reduce each answer to its simplest form.]

a Using the four-step process, multiply $15\frac{1}{2}$ by $27\frac{2}{3}$.

b $5\frac{3}{4}$ minus $4\frac{3}{4}$ =

c Subtract 6987 from 7645

d Divide $\frac{3}{8}$ by $\frac{1}{6}$

e Divide 3.9052 by 150.2

* *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 which contains an error in method and an error in computation.]