The University of the State of New York

305TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, January 25, 1949 — 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

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.

1–2 *a* Make the extensions: [5]

  80 yd at $1.50 per yd   = $

  2500 lb. at $24 per ton   = $

  120 yd at $.08⅓ per yd   = $

  60 bu. at $.35 per bu.   = $

  8 oz. at $.98 per lb.
       (avoirdupois)   = $

b Compute the simple interest: [5]

  $800 for 4 months at 6%   = $

  $3600 for 3 days at 6%   = $

  $60 for 29 days at 6%   = $

  $180 for 60 days at 1½%   = $

  $150 for 2 years at 3%   = $

c Underscore the correct answer for *each* of the following: [5]

  ½% expressed as a decimal is (.005; .05; .50; .0005)

  24 is ⅔ of (8; 16; 36; 32)

  1½% of 180 is (270; 27; 1.20; 2.7)

  An article costing $20 sells for $25. The per cent of gain based on the cost is (25%; 5%; 10%; 20%)

  90 is 50% greater than (135; 60; 120; 30)

d Complete the following summary of profit for December: [5]

Dept.	Gross Profit		Overhead	Net Profit
Hardware	$527	(less)	$331	$196
Paint	384		215	
Furniture	912		785	
Totals	$		$	$

BUSINESS ARITHMETIC

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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 Ellis is employed on a 40-hour-per-week basis at $1.10 per hour, with time and a half for overtime. Last week he worked 46 hours. What will be his total earnings?

    b On October 19, 1948, Welch discounted at the bank a customer's promissory note which was due December 13 of the same year. For how many days did the bank figure the discount?

    c In 1947, Mrs Jones's weekly food bill averaged $11.80. In 1948, it averaged $20.06. By what per cent did it increase?

    d A commission merchant bought goods for Brown for $3450 and charged $276 commission on the purchase. What per cent of commission did he charge?

    e On January 2, 1948, Lowry deposited $500 in a savings bank that paid interest at the rate of 2% per year. Interest was figured and added to the account every 6 months. How much did Lowry have on deposit at the end of 1948 if he made no additional deposits or withdrawals during that period?

4 Rogers started on a motor trip at 8.30 a. m. and arrived at his destination at 5.15 p. m. During the trip he stopped one hour for lunch. His speedometer registered 16,896.4 miles at the start of the trip and 17,198.1 miles at the end.

    a How many miles did he travel in making this trip?   [2]

    b How many hours were spent in *actual driving?*   [4]*

    c What was the average speed in miles per hour at which he drove, based on actual driving time?   [Express your answer correct to the nearest *tenth* of a mile.]   [4]*

5 Deering, a retail furniture dealer, bought a chair for $49, less 10%. He also paid freight charges of $2.45. His overhead expenses averaged 18% of sales. At what price should he sell the chair in order to make a net profit of 12% of the selling price?   [10]

6 *a* Ellington, an office-equipment dealer, wishes to buy 20 portable typewriters for his store. The Arden Company offers him a price of $60 per machine, less 16⅔% and 10%. Total freight charges, which Ellington must pay, would amount to $16.30. How much will Ellington pay for the 20 machines if he buys them from the Arden Company?   [4]*

    b The Stanley Company bought a truck for $2000. After using it for 4 years, the company bought a new truck for $2800, trading in the old truck and paying $1600 in cash. What was the average annual depreciation on the original truck?   [6]*

7 *a* Bethel insured his office building for $20,000 with the Empire Insurance Company and for $12,000 with the White Insurance Company. If a fire loss of $2400 occurred, what amount should be paid by the White Company?   [4]*

    b Over a period of 5 years, Thompson buys a U. S. Savings Bond on the first of each month, paying $18.75 per bond. At the end of 10 years from the date of purchase, each bond will be worth one-third more than its cost. What total sum of money will Thompson receive for these bonds if he keeps them all until their redemption dates?   [6]*

[3]

8 The Peerless Corporation has capital stock consisting of 500 shares of preferred stock paying 6% dividends, and 500 shares of common stock. The par value of each type of stock is $100 per share. A dividend of $7000 is to be paid to the stockholders. After the dividends have been paid to the preferred stockholders, how much will be paid as the dividend on each share of common stock? [10]

9 *a* On January 2, 1948, Gregg purchased for $12,500 the house in which he had been living and for which he had been paying rent, obtaining the necessary funds by selling bonds that had been earning 4% interest annually. How much interest did Gregg lose in 1948 by selling his bonds in order to buy the house? [2]

   b During 1948, Gregg paid taxes on the house at the rate of $31.50 per $1000 on an assessed valuation of $6000. What was the amount of taxes he paid on the house in 1948? [4]*

   c Insurance cost $25 per year, and repairs and other expenses $250. How much more money, including taxes and lost interest on the bonds, did it cost Gregg to own the house during 1948 than it would have cost had he continued to rent it at $60 a month? [4]*

10 *a* Wilkins, a salesman, is paid a weekly salary of $40 and 15% commission on all weekly sales in excess of $500. If his sales for two consecutive weeks are $480 and $616, respectively, what will be his total earnings for the two weeks? [4]*

   b Clark can buy a radio for $375 cash. He can also buy it on the instalment plan by making a down payment of 20% of the cash price. The remaining balance has a 6% carrying charge added to it and is to be paid in equal monthly instalments of $31.80 each. For how many months will Clark need to make payments in order to pay for the radio completely? [6]*

11 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 simplest form.] [10]

   a Divide 341.64 by 3.9

   b From 17.3 subtract 11.467

   c Add $1\frac{1}{3}$; $3\frac{1}{6}$; $2\frac{1}{2}$

   d Multiply 6.70 by 384

   e Using the four-step process, multiply $18\frac{1}{3}$ by $6\frac{1}{2}$

   f Divide $1\frac{1}{8}$ by $1\frac{2}{3}$

   g Express $\frac{5}{17}$ as a per cent correct to the *nearest tenth* of a per cent.

   h Multiply 9.74 by .06

   i Add 11.9 plus 1.674 plus 8.42 plus .04

   j From $9\frac{1}{4}$ subtract $4\frac{3}{8}$

12 Using the title and information given below, prepare a broken-line graph to show the facts: [Deduct one credit for each error or omission.] [10]

<div align="center">

COMMISSIONS EARNED IN 1948

January	$390
February	460
March	520
April	410
May	350
June	430
July	400

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* *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.]