

The University of the State of New York

309TH HIGH SCHOOL EXAMINATION

BUSINESS ARITHMETIC

Tuesday, June 20, 1950 — 9.15 a. m. to 12.15 p. m., only

Fill in the following lines:

Name of pupilName 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]

[OVER]

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2

RAPID CALCULATION TEST

1-2 a Make the extensions: [5]

450 bu. at $33\frac{1}{3}\phi$ per bu. = \$
 12 $\frac{1}{2}$ lb. at 24 ϕ per lb. = \$
 15 ft. at \$3 per yd. = \$
 1600 lb. at \$20 per ton = \$
 1200 lb. at \$3.50 per cwt. = \$

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

\$250 for 3 months at 6% = \$
 \$720 for 12 days at 6% = \$
 \$60 for 46 days at 3% = \$
 \$180 for 20 days at 1 $\frac{1}{2}$ % = \$
 \$360 for 6 days at 5% = \$

c Underscore the correct answer for *each* of the following: [6]

$\frac{1}{4}$ less than 48 is (12; 36; 60; 64)

$\frac{1}{2}$ % of \$1800 is (\$9; \$90; \$900; \$9000)

150% of 24 is (.36; 3.6; 16; 36)

If an article marked at \$40 sells for \$32, the per cent of discount given is (20%; 25%; 80%; 125%)

A tax rate of .0294 per dollar is equal to a rate per \$1000 of (29.4 ϕ ; \$2.94; \$29.40; \$294)

The exact number of days from March 29 to May 3 is (33; 34; 35; 36)

d Complete the following summary of sales made: [No partial credit allowed.] [4]

	<i>April</i>	<i>May</i>	<i>Total</i>
Eberle	\$ 927	\$1042	\$
Haskins	1118	1076	\$
Borden	813	958	\$
<i>Totals</i>	\$	\$	\$

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BUSINESS ARITHMETIC

Tuesday, June 20, 1950

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 Pencils which cost \$.48 per dozen are sold for \$.06 each. What amount of profit will the dealer make in selling 8 dozens of these pencils?

b An electric refrigerator costing \$225 had a trade-in value of \$140 after being used for 5 years. What was the amount of the average annual depreciation on the refrigerator?

c In 1948, Booth's weekly earnings averaged \$56.50. In 1949, they averaged \$53.11. By what per cent did Booth's average earnings decrease?

d In preparing a drawing, an architect used a scale of $\frac{1}{4}'' = 1$ ft. How long a line will he need to draw to represent a wall 24 ft. long?

e Vaughan owns a house and lot assessed at \$8500. The 1949 tax rate in his community was \$31.60 per \$1000. What was the amount of Vaughan's tax bill for 1949?

4 a Carlyle's automobile speedometer reading was 27,886 miles at the start of a trip, and 28,212 miles when he reached his destination. If the actual time spent in driving was 7 hours 30 minutes, what was the average speed per hour which Carlyle drove, correct to the nearest tenth of a mile? [4]*

b Wheaton, a salesman, is paid 10% on all sales, and an additional commission of 5% on all sales in excess of \$2500 per month. His sales were as follows: March, \$2190; April, \$2450; May, \$3140.

What was the total amount of commission earned by Wheaton for these three months? [6]*

5 a On January 2, 1949, Davis deposited \$1600 in a savings bank which paid interest at the rate of $1\frac{1}{2}\%$ per year. Interest was figured and added to the account every 6 months. How much interest did Davis' account earn for him during 1949 if he made no additional deposits or withdrawals during the year? [4]*

b Harrison can buy some office equipment he needs from the Superior Company for \$1600, less 25% and 10%, terms $\frac{2}{10}, N/30$. He can buy similar equipment from the Atlas Company for \$1500, less 30%, terms $N/30$. Harrison is able to pay cash for his purchase. How much will he save by accepting the better of the two offers? [6]*

6 The Excello Corporation has capital stock consisting of 1000 shares of preferred stock, paying 5% dividends annually, and 500 shares of common stock. Each type of stock has a par value of \$100 per share. Last year a dividend of \$8000 was paid to the stockholders. How much was paid to Steele, who owned 10 shares of preferred stock and 25 shares of common stock? [10]*

7 a Billings, Chapin and Carter are members of a partnership, with investments of \$18,000, \$24,000 and \$27,000, respectively. Profits and losses are to be shared in proportion to the partners' investments. If the firm made a net profit of \$18,860 during 1949, what amount did Billings receive as his share? [4]*

b Bishop's New York State income tax return for a certain year showed a net taxable income, after all deductions had been made, of \$3864. This income was subject to a tax of 2% on the first \$1000, 3% on the next \$2000, and 4% on the next \$2000 or any fraction thereof. What was the total of Bishop's New York State income tax? [6]*

8 Elson buys fountain pens at \$40 per dozen, less 40%. His overhead expenses average 25% of sales. At what price should he sell each pen in order to make a net profit of $8\frac{1}{3}\%$ of the selling price? [10]*

9 On April 7, 1950, Stevens discounted at his bank a customer's 2-month promissory note, dated March 17, and bearing interest at the rate of 5%. The face of the note was \$2400. The bank discount rate was 6%.

- a When did the note fall due? [2]
- b What amount will the maker of the note have to pay on the date the note falls due? [4]*
- c How much did Stevens receive as net proceeds from the note on April 7, 1950? [4]*

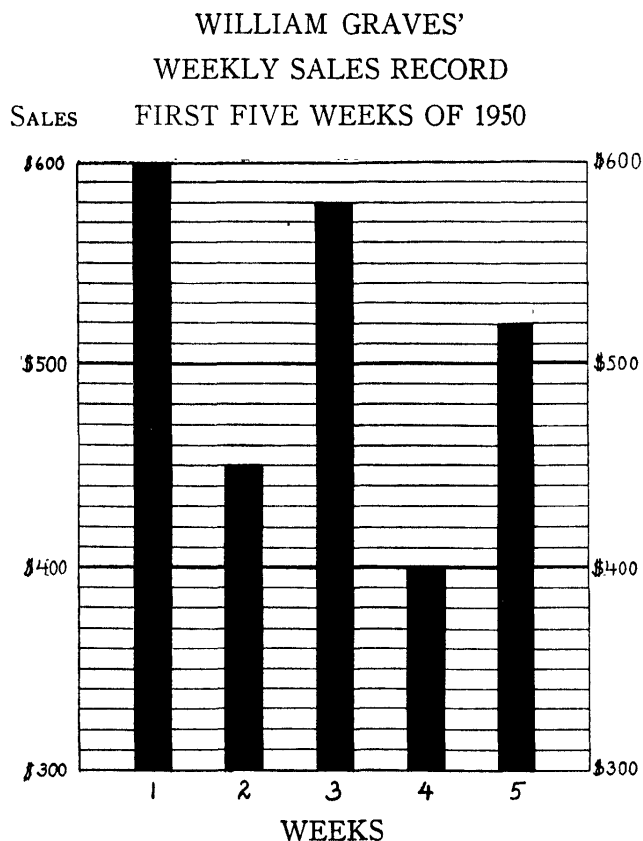
10 Write the letters *a*, *b*, *c*, *d* and *e* in a column on your answer paper. After each letter, write *true* if the corresponding statement below is correct; if the statement is false, write the amount that should be substituted for the underscored amount to make the statement correct. [Two credits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

- a An invoice for \$1640 is dated May 18, with terms of $\frac{5}{10}, \frac{1}{30}, N/60$. The amount needed to pay this invoice on June 12 is \$1623.60.
- b A stove may be purchased for \$200 cash, or on the installment plan by paying \$80 down and 8 monthly installments of \$20 each. The installment price exceeds the cash price by 16 $\frac{2}{3}$ %.
- c Nelson buys a 3-year fire insurance policy for \$3500, at a total rate of 51¢ per \$100. The average annual cost of this policy is \$17.85.
- d French's bank statement shows a balance of \$312.84. Checks for \$19.29, \$32.07 and \$26.54 are outstanding. French's available bank balance is \$390.74.
- e Webster works on a 40-hour-per-week basis, with time-and-a-half for overtime. During a recent week he worked 50 hours. He will be paid for 55 hours.

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. Wherever necessary, reduce the answer to its simplest form.] [10]

- a Add 119.2; 51.08; 2.764; .903
- b Subtract \$1079.53 from \$3912.26
- c Divide 107.64 by 27.6
- d Add $5\frac{1}{4}$; $13\frac{1}{5}$; $\frac{7}{10}$; $8\frac{1}{2}$
- e Using the four-step process, multiply $80\frac{2}{3}$ by $6\frac{1}{5}$
- f Divide $8\frac{1}{3}$ by $1\frac{1}{4}$
- g Express $\frac{5}{7}$ as a per cent correct to the *nearest tenth* of a per cent.
- h Multiply 89.3 by 2.07
- i Subtract $17\frac{3}{8}$ from $24\frac{1}{4}$
- j Find 116% of 94

12 The graph below shows the weekly sales made by William Graves for the first five weeks in 1950.



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

- a What were Graves' sales during the third week? [1]
- b In which week did he make the smallest total sales? [1]
- c In which two weekly periods were his sales nearest the same amount? [1]
- d By what amount did his sales for the second week differ from his sales for the fourth week? [1]
- e What were his average sales for the five-week period? [2]
- f If he received 15% commission on all sales, what total commission did he earn for the entire five-week period? [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.]

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