COMMERCIAL ARITHMETIC

Wednesday, January 22, 1930

NAME OF SCHOOL

NAME OF CANDIDATE

Fill above blanks before signal to begin work is given by examiner.

Do not open this sheet till the signal is given.

Examiner will place this sheet closed on desk of each candidate. Candidate will open the sheet and begin work at signal from examiner. Parts above the heavy line are to be worked mentally and the results placed on the sheet. Parts below the heavy line are to be worked out in full and all work shown in the spaces provided. At end of 15 minutes work must stop and the pages used for this test must then be detached from the rest of the question paper and immediately collected.

All work must be done with pen and ink.

COMMERCIAL ARITHMETIC RAPID CALCULATION TEST

Wednesday, January 22, 1930 — 9.15 a. m. to 12.15 p. m.

1–2 *a* Add [4]

4356
847
10786
6139
536785
478
81517
5769
781324
5543
216
4709
22437
143278
696
6432
78589
257

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b Find the interest at 6% on *each* of the following: [4]

$540 for 40 days =
$420 for 70 days =
$288 for 15 days =
$900 for 26 days =
[Footing not required]

c Make the extensions: [3]

88 articles @ $1.25 =
240 articles @ $7\frac{1}{2}¢$ =
320 articles @ $1.87\frac{1}{2}$ =
[Footing not required]

d Answer *each* of the following: [3]

$15 is what per cent of $90?
Express in per cent .0625
Find the date 60 days after October 15, 1929.

Show all work for *e* and *f* on this sheet in the spaces provided.

e Divide [3]

$.245\overline{)440.559}$

f Multiply [3]

$38\frac{5}{8}$
$24\frac{1}{2}$

The University of the State of New York

247TH HIGH SCHOOL EXAMINATION

COMMERCIAL ARITHMETIC

Wednesday, January 22, 1930 — 9.15 a. m. to 12.15 p. m., only

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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 commercial arithmetic.

The minimum time requirement is five recitations a week for a school year.

Answer questions 1–2 and eight of the others. All operations except mental ones are to be shown. 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] [2 credits should be deducted for each incorrect answer.]

a Find the single discount equivalent to discounts of 20% and 10%.

b If an article costs $12, at what price must it be sold to gain 20% of the selling price?

c Express 2.5% as a common fraction in its lowest terms.

d A desk that cost $60 decreases in value each year at the rate of 10% of the original cost. Find the value of the desk at the end of the third year.

e Find the cost of 3750 pounds of feed at $24 a ton.

4 Answer all parts of this question: [10] [2 credits should be deducted for each incorrect answer.]

a Express a tax rate of 31 mills on one dollar as a rate on one thousand dollars.

b Express as a decimal three fourths of one per cent.

c Three loads of coal weighed respectively 3450 lb, 3200 lb and 3610 lb. Find the average weight per load.

d At $6 a gross, find the cost of $3\frac{1}{2}$ dozen pencils.

e Find the area of a triangle whose base is 12 feet and whose altitude is $8\frac{1}{2}$ feet.

5 William Orton purchased $6\frac{1}{2}$% bonds of the par value of $10,000 at the market price of $9600, brokerage $20. He paid $4000 in cash and borrowed the balance from the bank at 6% interest. Find the amount of Orton's yearly income from the bonds after deducting interest paid to the bank for money borrowed. [10]

6 Harvey Rohr was employed in the service department of an automobile sales corporation at a weekly wage of $28. He also received a commission of 5% on all automobiles that he could sell during his spare time. During the year Rohr sold two cars at $1310, four at $765 and one at $730. Find Rohr's total earnings for the year. [10]

7 A dealer bought 20 dozen ladies' hats for $540. He sold 106 hats at $4.50 each, 50 at $3.84 and the remainder at $1.75.

a Find the total amount of profit. [8]

b Find the average amount of profit on each hat. [2]

8 A piece of real estate was purchased for $14,000. It was mortgaged for $7000, assessed at $10,500 and insured for the value of the building, $11,000.

a If the interest rate on the mortgage is $5\frac{1}{2}$%, the tax rate $22 per thousand and the insurance rate 60¢ per hundred, find the annual cost of *each* of the following: interest, taxes, insurance. [6]

b In addition to the above expenses, the repairs amount to $1\frac{1}{2}$% of the cost of the property. Find the total annual expenses. [4]

9 The four departments of a certain factory occupy floor space as follows: carpenter shop 1700 square feet, machine shop 3300 square feet, paint shop 1500 square feet, assembling department 2000 square feet. The yearly heating cost for the entire factory is $1870. What amount should be charged to each department if this expense is distributed on the basis of the floor space that each department occupies? [10]

[OVER]

10 A dealer purchased a radio for $250 less 40%. He sold it for $200 and in payment received $130 in cash and an old radio with an allowance value of $70. The old radio was sold for $45. What per cent, based on the cost, did the dealer gain or lose on the transaction? [10]

11 In the Erie Specialty Company, Groves invested $12,000, Brown $10,000 and Curtis his services. Out of the profits for the first year, which amounted to $8100, Curtis was allowed $1200 for services and Groves and Brown 15% each on their investments as interest on capital. The remainder of the profits was divided equally among the three partners. Find the amount of each partner's total income from the business. [10]

12 W. L. Brown, who was in the trucking business, was asked what he would charge for hauling the dirt from a cellar 30 feet long, 24 feet wide and 6 feet deep. He estimated that he could draw $2\frac{1}{2}$ cubic yards of dirt to a load at $1.60 a load.

a What was the estimated cost? [6]

b Brown took the job and hired Rawlings to drive the truck at $5.50 a day. How much would Rawlings earn on this job if he could draw 8 loads a day? [4]