The University of the State of New York

231st High School Examination

ARITHMETIC

Tuesday, June 17, 1924 — 9.15 a. m. to 12.15 p. m., only

Write at top of first page of answer paper (*a*) name of school where you have studied, (*b*) grade of work completed in arithmetic.

The minimum requirement is the completion of the work of the seventh grade in arithmetic, as outlined in the 1910 syllabus for elementary schools.

Answer the first five questions and seven of the others. Reduce each result to its simplest form and mark each answer Ans.

Questions 1, 2, 3, 4 and 5 are given as tests for accuracy; no credit, therefore, will be allowed unless the answer is correct.

1 Mental test on separate sheet. [10]

2 Copy and add the following: [5]

972.38; 12525.5; 247; 6832.69; .0075; 8046.037; 567.75; 99.99

3 Extract the square root of 1428.84. [5]

4 Divide $3\frac{1}{4}$ by $1\frac{3}{8}$. From the quotient subtract $1\frac{1}{2}$ and multiply the remainder by $3\frac{3}{5}$. [5]

5 Complete *five* of the following statements: [5]

a When one number is multiplied by another, the result is called the . . .

b To reduce an improper fraction to a mixed number you must . . .

c The face of a note less the discount is called the . . .

d A signature written across the back of a check is called . . .

e A number can be exactly divided by 5 if it ends in either . . . or . . .

f When a number is divided by something less than 1, the result will be . . . than the number.

g The line from one corner of a rectangle to the opposite corner is called the . . .

6 State with reference to the following problem (*a*) what you are required to find, (*b*) what facts are given you to work with, (*c*) what you must first find with the facts given, (*d*) how you will use what you first find to obtain your answer: [10]

Mr Gregg buys for a vacation trip an automobile for $335, a spare tire for $18 and a camp kit for $85; when he returns from his trip he sells the whole outfit for $290. What has the use of the outfit cost him?

7 Make out a bill for the following transaction: [10]

M. F. Kennedy buys today, June 17, 1924, of King and Connor, Lowville, N. Y., 22 pounds white lead at 16 cents a pound, 2 gallons linseed oil at 75 cents a gallon, 3 quarts turpentine at 40 cents a quart, 1 brush at $1.35, 12 rolls paper at 45 cents a roll, 1 pint varnish at 65 cents, 3 pounds paste at 15 cents a pound, 6 pounds kalsomine at 12 cents a pound.

8 The cost of building a cold storage plant 100 feet long, 60 feet wide and 30 feet high, inside measurement, was $49,500; what was the cost per cubic foot? [10]

9 A coat costing $104 was marked $195; at a special sale it was sold at a reduction of $33\frac{1}{3}\%$ from the marked price. What per cent did the merchant gain or lose? [10]

10 What will be the total cost of building a cement road 16 feet wide and 5 miles long at $2.50 a square yard? [10]

11 A merchant carries a stock of goods insured for $84,000. The insurance rate is $12 per thousand annually. The merchant is informed by the agent that if a sprinkler system is installed the rate will be reduced to $4.50 per thousand. What will be the saving in premiums each year to the merchant if the sprinkler system is installed? [10]

12 What is the amount due on a note for $375 which has run 1 year 5 months and 10 days at 5% interest? [10]

13 A school principal receives a salary of $400 a month for a school year of 10 months; a doctor makes 15 calls a day for 300 days at $2 a call and has 320 office calls at $1 each. Which of the two receives the larger income and how much larger? [10]

14 A clerk was paid $5 a day for his services. He was to receive in addition 2% on all daily sales above $50. If on Wednesday his sales amounted to $97.86, how much did he receive for that day's work? [10]

15 How many gallons of gasoline will a tank car that is 30 feet long and 10 feet in diameter contain? [One gallon contains 231 cubic inches.] [10]

ARITHMETIC MENTAL TEST

[Fifteen minutes allowed for this test]

Tuesday, June 17, 1924—9.15 a. m. to 12.15 p. m.

Answer all parts of this test. Write each answer in the space marked Ans. No credit will be allowed unless the answer is correct.

a If the street car fare is 7 cents, how much change should a man receive from a 25 cent piece after paying two fares? [1]

Ans.

b What is the cost of 4½ pounds of chicken at 40 cents a pound? [1]

Ans.

c If a can of beans that cost 12 cents was sold for 18 cents, what was the per cent of profit? [1]

Ans.

d Find the cost of 200 feet of lumber at $30 per M. [1]

Ans.

e What is ¼ of 828? [1]

Ans.

f A jar of butter weighing 7½ pounds sold for 50 cents a pound; what was the cost? [1]

Ans.

g A book that cost $2.40 was sold at a gain of 25%; what was the selling price? [1]

Ans.

h If 2 quarts of oysters cost $1.40, what was the price a gallon? [1]

Ans.

i What will 4 oranges cost at 60 cents a dozen? [1]

Ans.

j A train that was due at 3:30 p. m. was 45 minutes late; when did it arrive? [1]

Ans.