The University of the State of New York

315TH HIGH SCHOOL EXAMINATION

MATHEMATICS (Preliminary)

Wednesday, June 18, 1952 — 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.

Answer all questions in part I and five questions from part II.

Part I on pages 4 and 5 is to be done first and the maximum time to be allowed for this part is one and one half hours. Merely write the answer to each question on the line at the right; no work need be shown.

If you finish part I before the signal to stop is given, you may begin part II. However, it is advisable to look your work over carefully before proceeding to part II, since *no credit will be given any answer in part I which is not correct and reduced to its simplest form.*

When the signal to stop is given at the close of the one and one half hour period, work on part I must cease and this sheet of the question paper must be detached. The sheets will then be collected and you should continue with the remainder of the examination.

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

The minimum requirement is the completion of the work of the eighth grade in mathematics.

Part II

Answer any five questions from this part. No credit will be allowed unless all necessary operations are given. Reduce each result to its simplest form and mark each answer *Ans.*

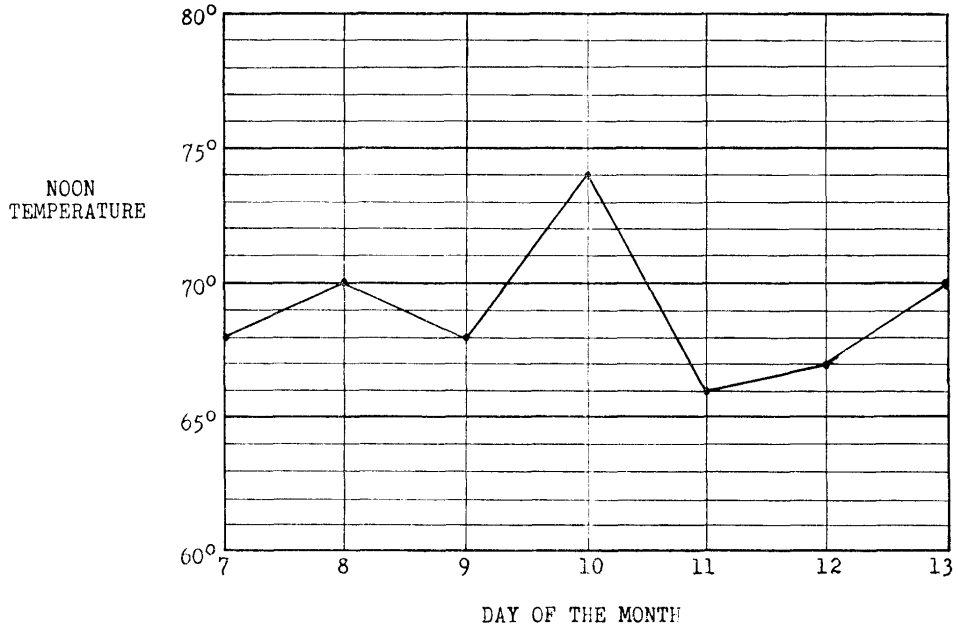
26 The distance from New York City to Albany by railroad is 142.2 miles. A certain train leaves New York at 12 : 00 noon and is due in Albany at 3 : 15 p. m. the same day.

a How many hours and minutes does it take the train to make the trip if it runs on schedule? [2]

b If the train arrived 54 minutes late, at what time did it reach Albany? [3]

c Find the cost of a coach ticket from New York City to Albany at the rate of $.0375 per mile. [5]

27 The following graph shows the noon temperature at a certain weather station on seven consecutive days in June.



a On what day was the noon temperature the highest? [2]

b For what two consecutive days was the change in noon temperature the least? [2]

c For what two consecutive days was the change in noon temperature the greatest? [2]

d What was the average noon temperature for the week? [2]

e How many degrees warmer was it at noon on June 9 than at noon on June 12? [2]

28 A senior class sold Christmas cards to raise money for their yearbook. They sold 275 boxes of "Christmas Specials" at $1.00 a box and 240 boxes of "DeLuxe Greetings" at $1.25 a box. They paid $.50 a box for the "Christmas Specials" and $.65 a box for the "DeLuxe Greetings." They were given a 5% discount on the first $100 of their purchase and a 10% discount on everything over $100.

a What was the total amount collected by the class from the sale of the cards? [3]

b What was the actual cost of the cards to the class? [5]

c How much money did the class make from the sale of the cards? [2]

29 A man paid a rate of \$.90 per \$100 for a fire insurance policy on his house and furnishings. When a new fire district was formed in his community, the insurance rate dropped to \$.70 per \$100.

a If the man's house was insured for \$8500 and the furnishings were insured for \$6400, how much did he pay for his fire insurance policy under the old rate of \$.90 per \$100? [4]

b How much did he pay for the same insurance under the new rate of \$.70 per \$100? [4]

c How much did he save on his policy under the new rate? [2]

30 It has been estimated that a well-lighted room should have a window area equal to at least 20% of the floor area. A certain room is 30 feet long and 24 feet wide.

a What is the fewest number of square feet of window area that this room should have according to the standard mentioned above? [4]

b How many windows, each 3 feet wide and 7 feet high, must be installed in the room to meet the minimum lighting standard? [6]

31 *a* If n represents a given number, express in terms of n *each* of the following:

(1) a number 5 less than n [1]
(2) a number 6 times as large as n [1]
(3) a number $\frac{2}{3}$ as large as n [1]
(4) the sum of 16 and n [1]

b Solve *each* of the following equations for y:

(1) $2y+1=9$ [2]
(2) $\frac{1}{3}y-4=6$ [2]
(3) $\frac{4}{5}y=12$ [2]

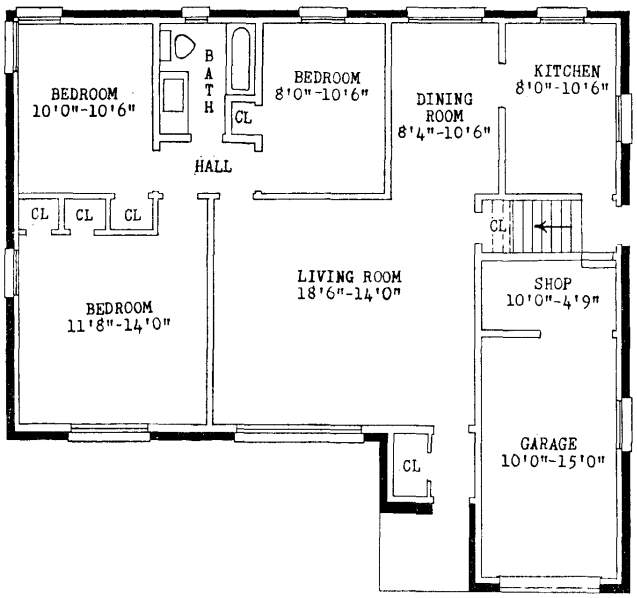
32 The drawing at the right represents the floor plan of a house.

a Find the area of the kitchen floor. [2]

b At \$9 per square yard what would be the cost of carpeting the living room from wall to wall? [3]

c If the owner of the house had a rug that measured 9′ by 12′, in how many of the bedrooms could he have used the rug without folding it or cutting it? [3]

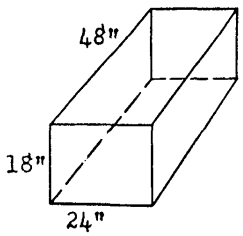
d Is the garage long enough to accommodate a car measuring 142 inches in over-all length? [2]



33 The drawing below represents an aquarium in the form of a rectangular solid. The figures given are inside dimensions.

a What is the volume of the aquarium in cubic inches? [6]

b Find the greatest number of gallons of water that can be poured into the aquarium without overflowing. Express your answer as a whole number. [231 cubic inches = 1 gallon] [4]



MATHEMATICS (Preliminary)

Wednesday, June 18, 1952

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Part I

Answer all questions in Part I. Write the answer to each question on the line at the right. Each question counts 2 credits; no partial credit is allowed. Reduce each answer to its simplest form.

1 Find the sum of: 729, 803, 651 1.....

2 Multiply \$.98 by $6\frac{1}{2}$ 2.....

3 Divide 8 by $\frac{2}{3}$ 3.....

4 Divide 20.25 by .045 4.....

5 Add $6\frac{7}{8}$, $3\frac{1}{4}$, $2\frac{1}{2}$ 5.....

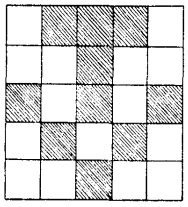
6 Subtract $5\frac{3}{8}$ from 12 6.....

7 George and his father caught two fish that weighed 2 lb., 7 oz. and 4 lb., 15 oz. What was the total weight of the two fish? 7.....

8 Subtract 2 hours and 50 minutes from 5 hours and 12 minutes. 8.....

9 Rewrite 3,756,548 rounded off to the nearest thousand. 9.....

10 What per cent of the figure at the right is shaded?



10.....

11 During a $33\frac{1}{3}\%$ discount sale, Jack's mother bought a chair that had originally been marked \$45. How much did she save? 11.....

12 Express in dollars and cents the amount of money you would have if you had 5 quarters, 4 dimes, 6 nickels and 1 penny. 12.....

[OVER]

13 What is the interest on \$600 for 8 months at 6%? 13.....

14 If a machine can print 3000 copies of a certain poster in 1 hour, how many *minutes* will it take, at the same rate of speed, for the machine to print 1000 copies? 14.....

15 If the school tax rate in a school district is \$.02516 on each dollar of assessed valuation, what is the school tax on a piece of property having an assessed valuation of \$1000? 15.....

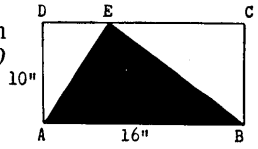
16 In the pictogram at the right each complete figure represents 100,000 trees. What is the total number of trees represented by the figures shown?

16.....

17 The weights of two anchors are in the ratio 2 to 3. If the smaller anchor weighs 50 pounds, what is the weight of the larger anchor? 17.....

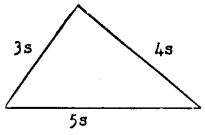
18 One morning 2% of the pupils of a school were absent. If 16 pupils were absent, how many pupils were enrolled in the school? 18.....

19 What is the area of triangle ABE shown in the diagram if the dimensions of rectangle $ABCD$ are 16 inches by 10 inches?



19.....

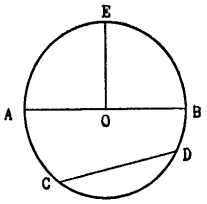
20 Express in terms of s the perimeter of the triangle at the right.



20.....

21 By what number do you multiply 9 in order to square it? 21.....

22 Name a line in the drawing at the right that represents a radius of the circle.



22.....

23 Write the following statement in the form of an equation:
If three times a certain number (x) is increased by 2, the result is 8. 23.....

24 Find the value of P in the formula $P = 2l + 2w$ when $l = 8$ inches and $w = 6$ inches. 24.....

25 Solve the equation: $3x - 6 = 15$ 25.....

FOR TEACHERS ONLY

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INSTRUCTIONS FOR RATING
MATHEMATICS (Preliminary)

Wednesday, June 18, 1952 — 9.15 a. m. to 12.15 p. m., only

Use only *red* ink or pencil in rating Regents papers. Do not attempt to *correct* the pupil's work by making insertions or changes of any kind.

Part I

Allow 2 credits for each correct answer; no partial credit allowed. Each answer must be reduced to its simplest form.

(1) 2183
(2) $6.37
(3) 12
(4) 450
(5) $12\frac{5}{8}$
(6) $6\frac{5}{8}$
(7) 7 pounds and 6 ounces
(8) 2 hours and 22 minutes
(9) 3,757,000
(10) 40
(11) $15
(12) $1.96
(13) $24
(14) 20
(15) $25.16
(16) 250,000
(17) 75 pounds
(18) 800
(19) 80 square inches
(20) $12s$
(21) 9
(22) AO or EO or BO
(23) $3x + 2 = 8$
(24) 28 inches
(25) $x = 7$

Part II

Do not allow credit unless all necessary operations are given. Each answer must be reduced to its simplest form. In a question consisting of several related parts, *a*, *b*, *c*, etc., if the answer for any part is incorrect, deduction should be made only for that particular part, provided succeeding parts have been correctly done on the basis of this incorrect answer.

26 Allow a total of 10 credits as indicated:
a 3 hours and 15 minutes [2]
b 4:09 (p. m.) [3]
c $5.33 *or* $5.34 [5]

27 Allow a total of 10 credits, 2 credits for each of the following:
a 10th
b the 11th and the 12th
c the 10th and the 11th
d 69°
e 1

28 Allow a total of 10 credits as indicated:
a $575 [3]
b $269.15 [5]
c $305.85 [2]

29 Allow a total of 10 credits as indicated:
a $134.10 [4]
b $104.30 [4]
c $29.80 [2]

30 Allow a total of 10 credits as indicated:
a 144 [4]
b 7 [6]

[OVER]

31 *a* Allow a total of 4 credits, 1 credit for each of the following:

(1) $n - 5$

(2) $6n$

(3) $\frac{2n}{3}$ *or* $\frac{2}{3}n$

(4) $n + 16$ *or* $16 + n$

b Allow a total of 6 credits, 2 credits for each of the following:

(1) $y = 4$

(2) $y = 30$

(3) $y = 15$

32 Allow a total of 10 credits as indicated:

a 84 square feet [2]

b $259 [3]

c one [3]

d yes [2]

33 Allow a total of 10 credits as indicated:

a 20,736 [6]

b 89 [4]