

The University of the State of New York

254TH HIGH SCHOOL EXAMINATION

INTERMEDIATE ALGEBRA

Thursday, June 23, 1932 — 9.15 a. m. to 12.15 p. m., only

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 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 in the space 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.

INTERMEDIATE ALGEBRA

Thursday, June 23, 1932

Fill in the following lines:

Name of school.....Name of pupil.....

Detach this sheet and hand it in at the close of the one and one half hour period.

Part I

Answer all questions in this part. Each question has $2\frac{1}{2}$ credits assigned to it; no partial credit should be allowed. Each answer must be reduced to its simplest form.

- 1 Write the cube of $2\sqrt{x}$ Ans.....
- 2 Solve for x : $\sqrt{x^2 + 5} = 3 - x$ Ans.....
- 3 What is the degree of a quadratic equation? Ans.....
- 4 Divide a^{2x-4} by a^{x-2} Ans.....
- 5 What is the value of $\sqrt[3]{y^2} \times y^{\frac{2}{3}}$? Ans.....
- 6 Rationalize the denominator of $\frac{3}{\sqrt{7}-1}$ Ans.....
- 7 Simplify $\frac{6 + \sqrt{-16}}{2}$ Ans.....
- 8 If the roots of a quadratic equation are real, rational and equal, what is the value of the discriminant? Ans.....
- 9 The roots of the quadratic equation $x^2 + mx + c = 0$ are $2 + \sqrt{3}$ and $2 - \sqrt{3}$; what is the value of m ? Ans.....
- 10 The graph of the equation $x + 2y = k$ passes through the point (2,3); find the value of k . Ans.....
- 11 Find the number of degrees in the angle which the graph of $y = x + 3$ makes with the x -axis. Ans.....
- 12 Find $\log \sin 28^\circ$ Ans.....
- 13 If $y = \log x$, does y increase or decrease as x increases? Ans.....
- 14 If $\log c = 1.5483$, find c to the nearest hundredth. Ans.....
- 15 Write the first three terms of the expansion $(x + 2)^5$ Ans.....
- 16 Insert two arithmetic means between 3 and 7. Ans.....
- 17 Find the sum of the first four terms of the geometric progression in which the first term is 4 and the ratio .1. Ans.....
- 18 A boy is y years old; in how many years will he be 21? Ans.....
- 19 What is a merchant's gain on n hats bought at b dollars each and sold at s dollars each? Ans.....
- 20 Solve the following equation for x :
 $7x^2 + 5x - 12 = 0$ Ans.....