University of the State of New York. ³

32ND ADVANCED ACADEMIC EXAMINATION.

ALGEBRA.

18305 AK ...

a. 7. S. D.

(Through Quadratics.)

MONDAY, November 19, 1888-Time, 9:30 A. M. to 12:30 P. M. only.

40 credits, necessary to pass, 30.

1. Write the fraction which has for the numerator, the square root of x plus the cube root of y, multiplied by m fifth power increased by six times x square y cube; and the denominator, the cube root of m plus the fifth root of n multiplied by the binominal y cube plus x square.... 3 2. Simplify 3 $(x+a)(y+b) - \langle -m[c-(d-g)] \rangle \dots$ $\mathbf{2}$ 3. Explain and illustrate by examples, the treatment of a minus sign of a subtrahend, and of minus into minus in multiplication. 4 4. Multiply a - b + c, by a + b - c, and find the value of the product when a=9, b=4, c=3 25 Expand (1+c) (1+c) (1-c) $(1+c^2)$ $\mathbf{2}$ 6. The dividend is $x^{n} + x^{2n}y^{n} + y^{n}$; the quotient is x^{2n} $x^n y^n + y^n$; what is the divisor? $\mathbf{2}$ 7. Is $m^0 + x^9$ divisible by m + x; by $m - x^2$ 4 8. Reduce the fraction $\frac{a^3 + 2ba^3 + 3b^2a^2}{2a^4 - 3ba^3 - 5b^2a^2}$ to its lowest terms. $\mathbf{2}$ 9. Simplify $\frac{1+x}{1+x+x^2} = \frac{1-x}{1-x-x^2} \cdots \cdots \cdots$ 3 10. What is the rule for transposing a term from one member of an equation to the other? What is the principle ?.... -4 11. On a disabled steamer there were 343 persons; there were twice as many men as women, and twice as many women as children. All the children, $\frac{4}{7}$ of the women and $\frac{1}{4}$ of the men were saved. How many were saved ?..... $\mathbf{2}$ 12. Solve, by comparison, $\begin{array}{c} 7y - 3x = 139\\ 2x + 5y = 91 \end{array}$ 3 13. Solve $mx^2 - 1 = \frac{x (m^3 - n^2)}{mn}$ 4