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INTERMEDIATE CERTIFICATE EXAMINATION, 1934.

ELEMENTARY MATHEMATICS (Algebra).
FOR GIRLS ONLY.

MONDAY, 18*th JUNE*.—AFTERNOON, 3.30 P.M. TO 6 P.M.

Seven questions may be answered.

Mathematical Tables may be obtained from the Superintendent.

1. Solve the equation

$$\frac{13-3x}{11}-\frac{21+5x}{6}=1.$$

Verify your answer. [20 marks.]

2. Divide $8x^3-2x^2-7x+3$ by $2x-1$, and find for what value of x the quotient is equal to the square of the divisor. [20 marks.]

3. If $x+2y=-5$, and $3x+y=0$, find the values of (i) $4x+3y$; (ii) $2x-y$; (iii) $8x^2+2xy-3y^2$. [20 marks.]

4. The postage for a letter is twopence, and for a postcard it is one penny. A lady sent 38 communications, some of them letters and the remainder postcards. The total postage was 4s. 8d. Find the number of letters and the number of postcards she sent. [20 marks.]

5. Express by means of algebraic symbols :—

(*a*) The square of the sum of two numbers.

(*b*) Any number of two figures.

(*c*) The total value in *shillings* of £*a*, *b* shillings, and *c* pence.

(*d*) What fraction *a* shillings is of £*b*.

(*e*) *c* feet per second in miles per hour. [22 marks.]

6. Solve the equations :

(i) $3x^2-22x=16$.

(ii) $(3x-1)(2x+3)=5(3x-1)(x-2)$. [22 marks.]

7. Find the square root of

$(2x^2-5x-3)(2x^2-7x-4)(x^2-7x+12)$ [22 marks.]

8. Show by examples that you know the difference between an identical and a conditional equation.
What values must A and B have in the identity $2(x-3) \equiv A(x+1)+B(x-4)$?

[22 marks].

9. Find the values of x^2 when $x=-3, -2, -1, 0, 1, 2, 3$. Use those values to draw a graph of x^2. Read from your graph as accurately as you can (i) the values of x which satisfy the equation $x^2=3$ and (ii) the square of 1·9.

[22 marks.]