AN ROINN OIDEACHAIS

INTERMEDIATE CERTIFICATE EXAMINATION, 1966

ELEMENTARY MATHEMATICS (ALGEBRA)

FOR GIRLS ONLY

FRIDAY, 10th JUNE — Afternoon, 2.30 to 4.30

All questions to be answered
All questions carry equal marks

1. (i) Solve the equation
$$\tfrac{1}{2}(4x - 3) - \tfrac{5}{6}(x - 1) = 4.$$

(ii) Write down any three values of x for which $2x - 1$ is less than 2.

2. Find the values of x and y that satisfy the simultaneous equations
$$3x + 4y = 3$$
$$2x - 5y = 25.$$

For those values of x and y find the value of $6x^2 - 7xy - 20y^2$.

3. Factorise:

(i) $x(a - 1) - a + 1$;

(ii) $b^2 - 3b - 10$;

(iii) $(x + 1)(x - 2) - 3x(x + 1)$.

Simplify $388^2 - 387^2$.

4. In a certain school each boy wrote 4 Irish and 5 English essays and each girl wrote 6 Irish and 8 English essays. In all there were 460 Irish and 600 English essays written. How many boys and girls were in the school?

5. Solve each of the following equations:

(i) $(x - 1)(x - 2) = 3(x - 1)$;

(ii) $6x^2 - 5x - 6 = 0$.

6. Draw the graph of $2 + x - x^2$ for values of x from $x = -2$ to $x = +3$.

Find from your graph, as accurately as you can, the values of x for which $2 + x - x^2 = 1$.

For what values of x is $2 + x - x^2$ greater than 1?