

A N R O I N N O I D E A C H A I S

INTERMEDIATE CERTIFICATE EXAMINATION, 1963.

ELEMENTARY MATHEMATICS (ALGEBRA).

FOR GIRLS ONLY.

WEDNESDAY, 12th JUNE - Morning, 10 to 12.

All questions to be answered.

All questions carry equal marks.

1. Solve the equation

$$4(3x + 2) - 3(x - 1) = 29.$$

Verify your solution.

2. Factorise

(i) $x^2 + 11x + 24$;

(ii) $(x - 1)^2 - 144$;

(iii) $a^2 - b^2 - bc - ca$.

3. Solve the simultaneous equations

$$4x - y = 11,$$

$$3x + 5y = 14.$$

What then is the value of $\frac{7(4x - y)}{3x + 5y}$?

4. In buying post-cards at 4d. each and Christmas-cards at 2d. each a girl spent 5s. 4d. She would have spent 6d. less if the post-cards had cost 3d. each and the Christmas-cards 2½d. each. How many of each kind of card did she buy ?

5. (i) Solve $x^2 - 2x = 0$.

(ii) Find, correct to one decimal place, the values of x that satisfy the equation

$$2x^2 - 4x - 21 = 0.$$

6. Draw the graph of $x^2 - x - 1$ for values of x from -3 to $+3$.

Find from your graph, as accurately as you can, the values of x for which $x^2 - x - 1 = 0$.

Find, also, from your graph whether $x^2 - x - 1$ is positive or negative (i) when

$x = 0.3$, (ii) when $x = 2.5$, and explain how you arrived at your answers.