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(Department of Education).

INTERMEDIATE CERTIFICATE EXAMINATION, 1957.

ELEMENTARY MATHEMATICS (Algebra).

FOR GIRLS ONLY.

TUESDAY, 11th JUNE.—MORNING, 10 TO 12.

All questions to be answered.

All questions carry equal marks.

1. Simplify $\frac{x-1}{x^2+5x-6} - \frac{x+1}{x^2+8x+7}$
2. Solve the following equations :—
 - (a) $\frac{1}{3}(3x-1) - \frac{1}{2}(2x-5) = \frac{5}{6}(x+2)$;
 - (b) $\frac{3}{3x-1} = \frac{3x-1}{3}$
3. (a) Find the product of $a+b+c$ and $a+b-c$.
(b) Find the quotient obtained when a^3-27b^3 is divided by $a-3b$.
(c) Factorise x^3-x^2-42x .
4. Find, correct to one place of decimals, the values of x which satisfy each of the equations :—
 - (i) $x^2=15$,
 - (ii) $x^2-6x-6=0$.
5. If 10 lb. of butter and 6 dozen eggs cost the same as 6 lb. of butter and 9 dozen eggs, and if the cost of 3 lb. of butter exceeds the cost of 2 dozen eggs by 1s. 3d., find the cost of a pound of butter and of a dozen eggs.
6. Using the same axes and the same scales, draw the graphs of x^2 and $x+5$ for values of x from -3 to $+3$.
Use your graphs to find as accurately as you can (i) the values of x which satisfy the equation $x^2=x+5$, (ii) the value of the expression $x^2-(x+5)$ when $x=2.3$ and when $x=-2.3$.