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(Department of Education)

INTERMEDIATE CERTIFICATE EXAMINATION, 1961.

ELEMENTARY MATHEMATICS (Algebra).

FOR GIRLS ONLY.

TUESDAY, 13th JUNE.—MORNING, 10 TO 12.

All questions to be answered

All questions carry equal marks.

1. Express in simplest form :

$$(2x-3)(x+5)-(x+5)(x-2)-(x-1)^2.$$

2. Solve the following equations :

(*a*) $\frac{1}{4}(x-1)-\frac{1}{2}(8-x)=\frac{2}{3}(x-2)$;

(*b*) $\begin{cases} 3x-2y=12, \\ 2x+y=1. \end{cases}$

3. Factorise :

(*a*) $x^2-10x+24$;

(*b*) $x^2-(y-1)^2$;

(*c*) $a(a+b)-c(c+b)$;

(*d*) $(x+1)^3-(x-1)^3$.

4. A girl spends 8*s*. 2*d*. in buying x bangles at 3*d*. each and y brooches at 5*d*. each. She could have bought y bangles and x brooches for 7*s*. 10*d*. How many of each kind did she buy ?

5. Solve each of the following equations :

(*a*) $x^2=64$;

(*b*) $2(x-4)^2=50$;

(*c*) $x^2-8x=308$.

6. Draw the graph of $2x^2-3$ for values of x from $x=-3$ to $x=+3$. Use the graph, (*a*) to solve the equation $2x^2-3=0$, (*b*) to find the value of $2x^2-3$ when $x=1{\cdot}7$, (*c*) to find the values of x for which $2x^2-3=13$.