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(Department of Education).

INTERMEDIATE CERTIFICATE EXAMINATION, 1949.

ELEMENTARY MATHEMATICS (Algebra).

FOR GIRLS ONLY.

TUESDAY, 14th JUNE.—MORNING, 10 TO 12.

Six questions may be answered.

All questions carry equal marks.

1. Find the value of $\frac{2a^3 - a^2 - 6a}{a^3 - 4a}$ when $a = 2\frac{1}{2}$.
2. (i) Express a miles per hour in feet per second.
(ii) If a car does x miles in y hours, how long will it take to do 10 miles?
3. Find, correct to one decimal place, the values of x which satisfy the equation $x^2 - 9x = 3$.
4. Solve the equations :—
 - (i) $6 - \{2x - (3x - 4) - 1\} = 0$.
 - (ii) $\left. \begin{array}{l} 3x + 2y = 5 \\ 2x - y = 8 \end{array} \right\}$

Or,

4. A girl spent 4s. 6d. in buying x apples at 2d. each and y oranges at 3d. each. Had she bought y apples and x oranges, she would have spent 5s. 6d. Find the values of x and y .

[OVER.]

5. Factorise :

(i) $3ab - 6bc - 6ad + 12cd$;

(ii) $x^2 - 14x - 72$;

(iii) $(a^2 - 2a + 1) - 4b^2$.

Or,

5. Simplify :—

(a) $\frac{(x+y-z)^2 - (x-y+z)^2}{y-z}$;

(b) $\frac{x+3}{x^2+6x} - \frac{x+4}{x^2+8x+12}$

6. A man bought a horse and then sold it at a profit of 15%. Had he paid £5 less for the horse and sold it for £4 more, he would have made a profit of 30%. What did he pay for the horse ?

7. Using the same axes and the same scales, draw the graphs of $y = x^2$ and $y = 2x + 1$ for values of x from $x = -3$ to $x = +3$. Find from your graphs, as accurately as you can, the values of x for which x^2 is equal to $2x + 1$.