
 INTERMEDIATE CERTIFICATE EXAMINATION, 1968

 ELEMENTARY MATHEMATICS (ALGEBRA)
 FOR GIRLS ONLY

 FRIDAY, 14th JUNE - Afternoon, 2.30 to 4.30

All questions to be answered.

 All questions carry equal marks.

1. Simplify the expression $(x-2)(x+2) + (x-2)^2 + (x-2)(x-3)$.
 What is the value of the expression when $x = 22$?

2. Solve the equations:

(i) $3(x-1) - \frac{1}{2}(2x-3) = 1$;

(ii) $\begin{cases} 2x - 3y = 9, \\ 3x + y = 8. \end{cases}$

3. Factorise:

(i) $ac - bc + ad - bd$;

(ii) $x^2 - 10x - 24$;

(iii) $(x-1)^2 - y^2$.

4. What number should be added to $x^2 - 8x$ to make a perfect square ?

Solve the equation $2(x^2 - 8x) = 5$ and give your answer correct to two places of decimals.

5. An article is bought for x s. and sold for y s.

Express (i) the profit, (ii) the % profit in terms of x and y .

If the profit is 10s. and if the % profit is 50, find x and y .

6. Plot the graph of $y = x^2 - x - 3$ for values of x from $x = -2$ to $x = +3$. Use your graph (i) to solve the equation $x^2 - x - 3 = 0$, (ii) to find whether $x^2 - x - 3$ is positive or negative when $x = 0.5$.

Explain your answer to (ii).