



A Level Maths

Topic: Inequalities (Linear and Quadratic)

Instructions

Answer all questions. Show complete working. Solve the inequalities using appropriate methods.

Practice Questions

1. Solve the following linear inequalities:

(i) $3x + 5 \leq 14$

(ii) $2x - 3 > 7$

(iii) $5x + 2 \geq 3x - 4$

(iv) $-4x + 6 < 2x + 8$

2. Solve the following quadratic inequalities:

(i) $x^2 - 5x + 6 \geq 0$

(ii) $x^2 + 4x - 5 < 0$

(iii) $x^2 - 3x - 4 \leq 0$

(iv) $x^2 + 2x - 8 > 0$

3. Solve and represent the solution on a number line:

(i) $2x - 1 > 3$

(ii) $x^2 - 4x - 5 \leq 0$

(iii) $x^2 + 3x + 2 > 0$

(iv) $x^2 + 6x + 9 \geq 0$

4. Solve the inequality $2x^2 - 3x - 5 < 0$ by factorising.

5. Solve the quadratic inequality $x^2 - 4x + 3 \geq 0$ using the test point method.

6. Solve the following system of inequalities:

(i) $x - 3 \leq 5$ and $x + 4 > 6$

(ii) $2x + 3 \geq 7$ and $x^2 - 5x + 6 \leq 0$

7. Solve the following inequality and express the solution set:

(i) $x^2 + 6x + 5 \geq 0$

(ii) $2x^2 - 3x - 5 > 0$

Multiple-Choice Questions

1. Solve the inequality $2x - 3 \geq 7$:

A. $x \geq 5$

B. $x \geq 2$

C. $x \leq 5$

D. $x \leq 2$

2. What is the solution to the inequality $x^2 - 4x + 3 \leq 0$?

A. $1 \leq x \leq 3$

B. $x \geq 1$

C. $x \leq 1$

D. $x \geq 3$

3. The solution to the inequality $x^2 + 5x - 6 < 0$ is:

A. $-6 < x < 1$

B. $x < -1$

C. $x \geq 1$

D. $-1 < x < 6$

4. The solution to the inequality $2x^2 - 3x - 5 > 0$ is:

A. $x \in (-\infty, -1) \cup (5, \infty)$

B. $x \in (-1, 5)$

C. $x \in (-\infty, -5) \cup (3, \infty)$

D. $x \in (-5, 3)$

Visit our website: Mathaversity.com