Provincial Department of Education – Sabaragamuwa - Week School

Subject: Mathematics

Week - 35

Grade: 10

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Algebraic Inequalities

- An inequality describes a relationship between two different values; inequality symbols are

  Less than " < " , Greater than " > " , less than or equal " ≤ " , Greater than or equal " ≥ "

- In inequalities,
  - i. If a positive number or a negative number is added to both sides of an inequality, the inequality symbol remains unchanged
  - ii. If both sides of an inequality are multiplied or divided by a positive number, the inequality symbol remains unchanged
  - iii. If both sides of an inequality are multiplied or divided by a **negative number**, the inequality **symbol changes**

  (That is, the sign " < "changes to " > " and the sign " ≥ "changes to " ≤ " etc.)

Example 1 –

Answers

Solving the inequality, $-3x + 2 \geq -7$

(i). Write down the set of integral values that x can take.

$\{\ldots, -2, -1, 0, 1, 2, 3\}$

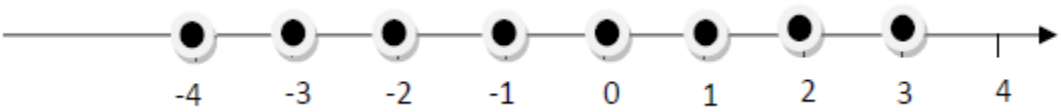
$-3x+2-2 \geq -7-2$

$-3x \geq -9$

$\frac{-3x}{-3} \leq \frac{-9}{-3}$

$x \leq 3$

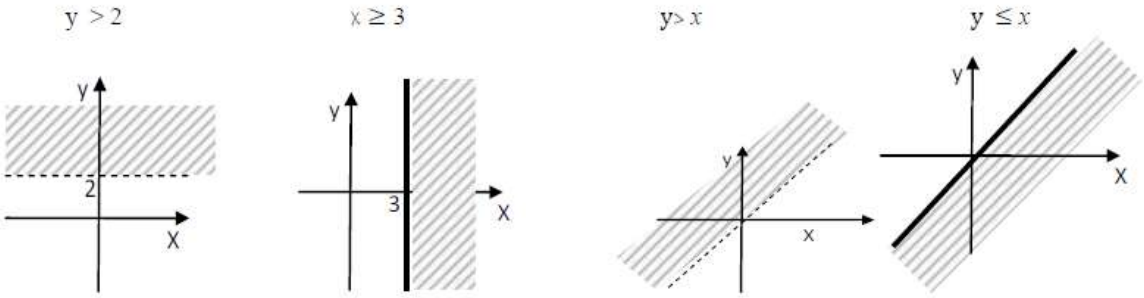
(ii). Represent integral values that x can take on a number line.



(iii) Represent all the values that x can take on a number line.

- **Do the exercise 25.1 in the textbook part II**

Example 2 -



- **Do the exercises 25.2 and 25.3 in the text book part II**