MATHS

BOOKS - ICSE

LINEAR INEQUATIONS

Example

1. Find the solutions set of the equations :

(i) $12x + 6x > 0$, where x is a negative integer.

(ii) 30-4(2x-1) < 30, where x is a positive integer.

2. Graph the solution set on a number line if $-2x + 14 < 6$ where x is a real number.

Exercise 15 A

1. If the replacement set is the set of natural numbers, solve :

(i) $x - 5 < 0$ (ii) $x + 1 \leq 7$

(iii) $3x - 4 > 6$ (iv) $4x + 1 \geq 17$

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2. If the replacement set s={-6,-3,0,3,6,9}, find the truth set of the following :

(i) $2x - 1 > 9$ (ii) $3x + 7 \leq 1$

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3. Solve : $7 > 3x - 8, x \in N$

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4. Solve : $17 < 9y - 8 ly \in Z$

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5. Solve $9x - 7 \leq 28 + 4x, x \in W$.

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6. Solve $\dfrac{2}{3}x + 8 < 12,\ x \in W.$

7. Solve $-5(x + 4) > 30,\ x \in Z$

8. Solve the inequation

$8 - 2x \geq x - 5,\ x \in N.$

9. Solve the inequality

$$18 - 3(2x - 5) > 12, x \in W.$$

10. Solve $\dfrac{2x + 1}{3} + 15 \le 17, x \in W.$

11. Solve $-3 + x < 2$, $x \in N$.

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12. Solve

, $4x - 5 > 10 - x$, $x \in \{0, 1, 2, 3, 4, 5, 6, 7\}$

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13. Solve $15 - 2(2x - 1) < 15$, $x \in Z$

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14. Solve $\dfrac{2x + 3}{5} > \dfrac{4x - 1}{2}, \; x \in W$

Exercise 15 B

1. Solve and graph the solution set on a number line :

$$x - 5 < -2, \; x \in N$$

2. Solve and graph the solution set on a number line :

$$3x - 1 > 5, x \in W$$

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3. Solve and graph the solution set on a number line :

$$-3x + 12 < -15, x \in R$$

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4. Solve and graph the solution set on a number line :

$$7 \geq 3x - 8, \, x \in W$$

5. Solve and graph the solution set on a number line :

$$8x - 8 \leq -24, \, x \in Z$$

6. Solve and graph the solution set on a number line :

$$8x - 9 \geq 35 - 3x, \ x \in N$$

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7. Solve and graph the solution set on a number line :

$$5x + 4 > 8x - 11, \ x \in$$

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8. Solve and graph the solution set on a number line :

$$\frac{2x}{5} + 1 < -3, \, x \in R$$

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9. Solve and graph the solution set on a number line :

$$\frac{x}{2} > -1 + \frac{3x}{4}, \, x \in N$$

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10. Solve and graph the solution set on a number line :

$$\frac{2}{3}x + 5 \leq \frac{1}{2}x + 6, \, x \in W$$

11. Solve the inequation $5(x - 2) > 4(x + 3) - 24$ and represent its solution on a number line. Given the replacement set is {-4,-3,-2,-1,0,1,2,3,4}.

12. Solve $\frac{2}{3}(x - 1) + 4 < 10$ and represent line solution on a number line. Given replacement set is {-8,-6,-4,3,6,8,12}

13. For each inequation , given below, represent the solution on a number line:

$$\frac{5}{2} - 2x \geq \frac{1}{2}, x \in W$$

14. For each inequation , given below, represent the solution on a number line:

$$3(2x - 1) \geq 2(2x + 3), x \in Z$$

15. For each inequation , given below, represent the solution on a number line:

$$2(4 - 3x) \leq 4(x - 5)x \in W$$

16. For each inequation , given below, represent the solution on a number line:

$4(3x + 1) > 2(4x - 1),$ x is a negative integer

17. For each inequation , given below, represent the solution on a number line:

$$\frac{4 - x}{2} < 3, x \in R$$

18. For each inequation , given below, represent the solution on a number line:

$$-2(x + 8) \leq 8, x \in R$$

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