INDIAN SCHOOL AL WADI AL KABIR
DEPARTMENT OF MATHEMATICS 2024 – 2025
Work Sheet – Class XI - Linear Inequalities

1	Solve: $\frac{5-2x}{3} \le \frac{x}{6} - 5$
2	Solve: $-15 < \frac{3(x-2)}{5} \le 0$
3	Solve: $2x + 10 \ge 0$ and represent the solution on a number line.
4	Solve: $4 - x \le 3x + 12$ and represent the solution on a number line.
5	Solve: the inequality: $\frac{x}{2} < \frac{5x-2}{3} - \frac{7x-3}{5}$.
6	Solve: the inequality : $37 - (3x + 5) \ge 9x - 8(x - 3)$.
7	Solve: $x + \frac{x}{2} + \frac{x}{3} < 11$.
8	Solve: $\frac{2x-3}{4} + 8 \ge 2 + \frac{4x}{3}$
9	Solve: $\mid 2x - 1 \mid \le 3$.
10	Solve the following system of inequations: $3x - 7 > 2(x - 6)$: $6 - x > 11 - 2x$
11	Solve: $\frac{1}{2}\left(\frac{3x}{5} - 4\right) \ge \frac{1}{3}(x - 6)$
12	Solve the following system of linear inequalities: $2x + 9 > 5 - 3x$; $5x - 7 \le 3x + 11$.
13	Find all pairs consecutive even integers, both of which are larger than 8, such that the sum less than 25.
14	Solve: $\frac{3x-4}{2} \ge \frac{x+1}{4} - 1$
15	Solve: $7 \le \frac{3x+11}{2} \le 11$

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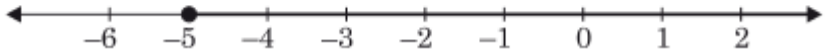
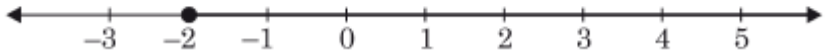
Linear Inequality (Answer Key)

1	$x \geq 8$.
2	$-23 < x \leq 2$
3	$2x + 10 \geq 0 \Rightarrow x \geq -5$ The solution can be represented on a number line as follows: 
4	$4 - x \leq 3x + 12 \Rightarrow 4x \geq -8 \Rightarrow x \geq -2$. The solution can be represented on a number line as follows: 
5	$x < -\frac{2}{7}$.
6	$x \leq 2$.
7	$x < 6$.
8	$x \leq \frac{63}{10}$.
9	$x \in [-1, 2]$.
10	$x > 5$.
11	$x \leq 120$.
12	$\left(-\frac{4}{5}, 9\right]$
13	10, 12.
14	$[1, \infty)$
15	$[1, \frac{11}{3}]$