

Class - XI	MATHEMATICS	F.M- 48
<i>Topic-Linear Inequalities</i>		<i>P.M-30</i>
Time -1 Hours	Date-06.10. 13	

1. Solve $5x - 3 < 3x + 1$ when
 (i) x is an integer (ii) x is a real number.
2. Solve $\frac{5-2x}{3} \leq \frac{x}{6} - 5$.
3. Solve $\frac{3x-4}{2} \geq \frac{x+1}{4}$. Show that graph of the solutions on number line.
4. Find all pairs of consecutive odd natural numbers, both of which are larger than 10, such that their sum is less than 40.
5. Solve the inequalities for real x . $\frac{(2x-1)}{3} \geq \frac{(3x-2)}{4} - \frac{(2-x)}{5}$.
6. Solve the inequalities show the graph of the solution in each case on number line. $\frac{x}{2} \geq \frac{(5x-2)}{3} - \frac{(7x-3)}{5}$.
7. To receive Grade 'A' in a course, one must obtain an average of 90 marks on more in five examinations (each of 100 marks). If Sunita's marks in first four examinations are 87, 92, 94 and 95, find minimum marks that Sunita must obtain in fifth examination to get grade 'A' in the course.
8. The longest side of a triangle is 3 times the shortest side and the third side is 2 cm shorter than the longest side. If the perimeter of the triangle is at least 61 cm, find the minimum length of the shortest side.
9. Solve the following inequalities graphically in two – dimensional plane $-3x + 2y \geq -6$.
10. Solve the following inequalities graphically in two – dimensional plane $3y - 5x < 30$.
11. Solve the following system of linear inequalities graphically.
 $x + y \geq 5$ (1)
 $x - y \leq 3$ (2)
12. Solve the following system of inequalities
 $8x + 3y \leq 100$ (1)
 $x \geq 0$ (2)
 $y \geq 0$ (3)
13. Solve the following system of inequalities graphically.
 $4x + 3y \leq 60, y \geq 2x, x \geq 3, x, y \geq 0$.
14. $x + 2y \leq 10, x + y \geq 1, x - y \leq 0, x \geq 0, y \geq 0$.
15. In an experiment, a solution of hydrochloric acid is to be kept between 30° and 35° Celsius. What is the range of temperature in degree Fahrenheit if conversion formula is given by $C = \frac{5}{9}(F - 32)$, where C and F represent temperature in degree Celsius and degree Fahrenheit, respectively.
16. A manufacturer has 600 litres of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%?