

## ECAT Mathematics Chapter 21 Linear Inequalities and Linear Programming Online Test

Sr	Questions	Answers Choice
1	The graph of $y > 0$ is the upper - half of:	A. y-axis B. x-axis C. 1st and 4th quadrant D. 2nd and 3rd quadrant
2	The corner point of the boundary lines, $x - 2x + 2y = 10$ is:	A. (8,1) B. (1,8) C. (6,10) D. (3,5)
3	The corner point of the boundary lines, $x - 2y + 2x + y = 2$ is:	A. (2,6) B. (6,2) C. (-2,2) D. (2,-2)
4	A point of a solution regions where two of its boundary lines intersect, is called:	A. Vertex of the solution B. Feasible point C. Point of inequality D. Null point of the solution region
5	For graphing a linear inequality, solid line is drawn if the inequality involves the symbols:	A. $>$ or $<$ ; B. $\geq$ or $\leq$ C. $=$ or $\neq$ D. $=$ or $>$
6	Which of the following ordered pair is a solution of the inequality $x + 2y < 6$ ?	A. (2,3) B. (2,2) C. (6,0) D. (1,1)
7	The liner equation $ax + by = c$ is called _____ of the inequality $ax + by > c$ .	A. Associated equation B. Non-associated equation C. disjoint equation D. Feasible equation
8	A _____ divides the plane into left and right half planes.	A. Vertical line B. Horizontal line C. Non vertical line D. Inequality
9	The set of ordered pairs $(x,y)$ such that $ax + by < c$ , and $(x,y)$ such that $ax + by > 0$ , are called	A. Half planes B. Boundary C. Linear Inequalities D. Feasible regions
10	The graph of the linear equation of the form $ax + by = c$ is a line which divided the plane into:	A. Two similar regions B. Two disjoint regions C. Four equal parts D. One region
11	Multiplying each side of an inequality by $(-1)$ will:	A. Not effect B. Change the sign C. Become zero D. Not defined
12	Order (or sense) of an inequality is changed by multiplying or dividing its each side by a:	A. Zero B. one C. negative constant D. Non negative constant
13	The solution set of $x < 4$ is	A. $-\infty < x < 4$ B. $-\infty < x < 4$ C. $-\infty < x < 4$ D. $-\infty < x < 4$

		<div style="font-size: 0.8em; color: gray;">size: 24px; color: rgb(34, 34, 34); text-align: center; background-color: rgb(255, 255, 248);"&gt;&lt;i&gt;<math>\infty</math>&lt;/i&gt; &lt;/span&gt;&amp;lt; x &amp;lt; 2 D. -&lt;span style="font-family: "Times New Roman"; font- size: 24px; color: rgb(34, 34, 34); text-align: center; background-color: rgb(255, 255, 248);"&gt;&lt;i&gt;<math>\infty</math>&lt;/i&gt; &lt;/span&gt;&amp;gt; x &amp;gt; 2</div>
14	The graph of linear equation $2x + 3y = 10$	A. Parabola B. Circle C. Hyperbola <b>D. Straight line</b>
15	Inequalities have _____ symbol	A. 2 B. 3 <b>C. 4</b> D. 1
16	There may be _____ feasible solution in the feasible region	<b>A. Infinite</b> B. Finite C. Defined D. None of above
17	Optimize means _____ a quantity under certain constraints	A. Minimize <b>B. Maximize</b> C. Maximize or minimize D. None of these
18	$s > t$ then	A. $(s - t)^2 \geq (t - s)^2$ B. $(s - t)^2 \leq (t - s)^2$ C. $(s - t)^2 = (t - s)^2$ <b>D. None</b>
19	$ab > 0$ and $a > 0$ then	A. $a \geq b$ B. $a \leq b$ C. $a = b$ <b>D. None</b>
20	$r + 3 > 5$ then which is true	<b>A. <math>r + 2 \geq 4</math></b> B. $r + 2 \leq 4$ C. $r + 2 = 4$ D. None
21	x is a member of the set {-1, 0, 3, 5} y is a member of the set {-2, 1, 2, 4} which is possible?	A. $x - y = -6$ B. $x - y \leq -6$ <b>C. <math>x - y \geq -6</math></b> D. None
22	The total cost of 2 apples and 3 oranges is \$1.70, which of the following is true	A. The cost of one apple B. The cost of one orange C. Both have equal cost per item <b>D. Cost of each single item can not be determined</b>
23	Question Image	<b>A. <math>p \leq r</math></b> B. $p \geq rr$ C. $p + r \leq 0$ D. $p - r \leq 0$
24	If $-1 < x < 0$ , which of the following statements must be true?	A. $x \leq x^2 \leq x^3$ <b>B. <math>x \leq x^3 \leq x^2</math></b> C. $x^2 \leq x^3 \leq x$ D. $x^2 \leq x \leq x^3$
25	For which of the following ordered pairs (s, t) is $s + t > 2$ and $s - t < -3$ ?	A. (3, 2) B. (2, 3) <b>C. (1, 8)</b> D. (0, 3)
26	Which is in the solution set of $4x - 3y < 2$	A. (3, 0) B. (4, 1) <b>C. (1, 3)</b> D. None
27	A farmer possesses 100 hectometers of land and wants to grow corn and wheat. Cultivations of corn requires 3 hours per hectometer while cultivation of wheat requires 2 hours per hectometer. Working hours cannot exceed 240. If he gets a profit of Rs. 20 per hectometer for corn and Rs. 15 per hectometer for wheat. The profit function for the farmer is	<b>A. <math>P(x, y) = 20x + 15y</math></b> B. $P(x, y) = 2x + 3y$ C. $P(x, y) = x + y$ D. $P(x, y) = 3x + 2y$

28	A point of a solution region where two of its boundary lines intersect, is called	A. Boundary B. Inequality C. Half plane D. Vertex
29	Which is not a half plane	A. $ax + by < c$ B. $ax + by > c$ C. Both A and B D. None
30	If $4 - x > 5$ , then	A. $x > 1$ B. $x > -1$ C. $x < 1$ D. $x < -1$