

CA Foundation Maths
Chp 3 :- Linear Inequalities



Time:- 15 mins

1. The Solution of the 8 in equality $8x+6 < 12x+14$ is
 - (a) $(-2,2)$
 - (b) $(0, -2)$
 - (c) $(2, \infty)$
 - (d) $(-2, \infty)$
2. on the average experienced person does 6 units work while A person 2 units of work daily but employer has to maintain as output of at least 24 units of per day. This situation can be expressed as
 - (a) $6x + 2y \leq 24$
 - (b) $6x+2y = 24$
 - (c) $6x+2y \geq 24$
 - (d) $6x+2y \neq 4$
3. On solving the inequalities $5x + y \leq 100$, $x + y \leq 60$, $x \geq 0$ and $y \geq 0$, we get the following situation.
 - (a) $(0, 0)$, $(20, 0)$, $(10, 50)$ and $(0,60)$
 - (b) $(0, 0)$, $(60, 0)$, $(10, 50)$ and $(0,60)$
 - (c) $(0, 0)$, $(20, 0)$, $(0, 100)$ and $(10,50)$
 - (d) none of these
4. Mr. A plans to invest up to Rs. 30,000 in two stocks X and Y. Stock X(x) is priced at Rs.175 and Stock Y(y) at Rs.95 per share. This can be shown by
 - (a) $175x+95y < 30,000$
 - (b) $175x+95y > 30,000$
 - (c) $175x+95y = 30,000$
 - (d) None of these
5. The solution set of the in equation $x+2 > 0$ and $2x - 6 > 0$ is
 - (a) $(-2,\infty)$
 - (b) $(3, \infty)$
 - (c) $(-\infty, 2)$
 - (d) $(-\infty, -2)$
6. A company produces two products A and B, each of which requires processing in two machines. The first machine can be used at most for 60 hours, the second machine can be used at most for 40 hours. The product A requires 2 hours on machine one and one hour on machine two. The product B requires one hour on machine one and two hours on machine two. Express above situation using linear inequalities.
 - (a) $2x + y \leq 60$ and $x + 2y \geq 40$.
 - (b) $2x + y \geq 60$ and $x + 2y \geq 40$.
 - (c) $2x + y \leq 60$ and $x + 2y \leq 40$.
 - (d) $2x + y \geq 60$ and $x + 2y \leq 40$.

7. On solving the inequalities $2x + 5y \leq 20$, $3x + 2y \leq 12$, $x \geq 0$, $y \geq 0$, we get the following situation
- $(0, 0)$, $(0, 4)$, $(4, 0)$ and $(20/11, 36/11)$
 - $(0, 0)$, $(10, 0)$, $(0, 6)$ and $(20/11, 36/11)$
 - $(0, 0)$, $(0, 4)$, $(4, 0)$ and $(2, 3)$
 - $(0, 0)$, $(10, 0)$, $(0, 6)$ and $(2, 3)$
8. On the average experienced person does 5 units of work while a fresh one 3 units of work daily but the employer has to maintain an output of at least 30 units of work per day. This situation can be expressed as,
- $5x + 3y \leq 30$
 - $5x + 3y > 30$
 - $5x + 3y \geq 30$ $x \geq 0$, $y \geq 0$
 - none of these
9. The solution space of the inequalities $2x + y \leq 10$ and $x - y \leq 5$:
- includes origin
 - includes the point $(4, 3)$
- Which one is correct?
- Only (i)
 - only (ii)
 - Both (i) and (ii)
 - None of these
10. The solution of the inequality $\frac{(5-2x)}{3} \leq \frac{x}{6} - 5$ is
- $x \geq 8$
 - $x \leq 8$
 - $x = 8$
 - None of these
11. A manufacturer produces two items A and B. He has Rs. 10,000 to invest and a space to store 100 items. A table costs him Rs. 400 and a chair Rs. 100. Express this in the form of linear inequalities.
- $x + y \leq 100$, $4x + y \leq 100$, $x \geq 0$, $y \geq 0$
 - $x + y \leq 1000$, $2x + 5y < 1000$, $x \geq 0$, $y \geq 0$
 - $x + y > 100$, $4x + y \geq 100$, $x \geq 0$, $y \geq 0$
 - none of these