

CLASS X
SESSION 2023-24
LINEAR EQUATIONS
ASSERTION REASONING

- 1. Assertion:** If a pair of linear equations is consistent, then the lines are intersecting or coincident
Reason: Because the two lines definitely have a solution. Ans : a
- 2. Assertion:** The pairs of equations $9x + 3y + 12 = 0$ and $18x + 6y + 26 = 0$ have no solution.
Reason: $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ So, the pairs of equations are parallel and the lines never intersect each other at any point, therefore there is no possible solution. Ans: a
- 3. Assertion:** If the lines $3x+2ky - 2 = 0$ and $2x+5y+1 = 0$ are parallel, then the value of k is $15/4$
Reason: The condition for parallel lines is $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ Ans: a
- 4. Assertion:** If one equation of a pair of dependent linear equations is $-3x + 5y - 2 = 0$. The second equation will be $-6x + 10y - 4 = 0$
Reason: The condition for dependent linear equations is $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ Ans: a
- 5. Assertion:** The given pair of linear equations are inconsistent $-3x - 4y - 12 = 0$ and $3x + 4y - 12 = 0$
Reason: If $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ the pair of linear equation is inconsistent. Ans: d
- 6. Assertion:** The two lines intersect each other in a single point.
Reason: The two lines are not intersecting that means these lines are parallel to each other
Ans: b
- 7. Assertion:** x and y are 2 different digits. If the sum of the two digit numbers formed by using both the digits is a perfect square, then value of $x + y$ is 11
Reason: Numbers that can be formed are xy and yx . Hence, $(10x + y) + (10y + x) = 11(x + y)$ if this is a perfect square that $x + y = 11$ Ans: a
- 8. Assertion:** The linear equations $x - 2y - 3 = 0$ and $3x + 4y - 20 = 0$ have exactly one solution.
Reason: The linear equations $2x + 3y - 9 = 0$ and $4x + 6y - 18 = 0$ have a unique solution. Ans: c
- 9. Assertion:** The point $(0, 4)$ lies on the graph of the linear equation $4x + 4y = 16$
Reason: $(0, 4)$ satisfies the equation $4x + 4y = 16$. Ans a
- 10. Assertion :** The graph of the linear equation $x - 5y = 1$ passes through the point $(6, 1)$.
Reason: Every point lying on graph is not a solution of $x - 5y = 1$. Ans c