

Linear

1. **Assertion (A):** Point P(0,2) is the point of intersection of $y - axis$ with the line $3x + 2y = 4$.
Reason (R): The distance of point P(0,2) from $x - axis$ is 2 units.
2. If the pair of equations $3x - y + 8 = 0$ and $6x - ry + 16 = 0$ represent coincident lines, then the value of 'r' is:
 - (a) $-\frac{1}{2}$
 - (b) $\frac{1}{2}$
 - (c) -2
 - (d) 2
3. The of linear equations $2x = 5y + 6$ and $15y = 6x - 18$ represents two lines which are:
 - (a) intersecting
 - (b) parallel
 - (c) coincident
 - (d) either intersecting or parallel
4. (a) Find the equations of the diagonals of the parallelogram PQRS whose vertices are P(4,2,-6), Q(5,-3,1), R(12,4,5) and S(11,9,-2). Use these equations to find the point of intersection of diagonals.

OR

- (b) A line l passes through point (-1,3,-2) and is perpendicular to both the lines $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and $\frac{x+2}{-3} = \frac{y-1}{2} = \frac{z+1}{5}$. Find the vector equation of the line l . Hence, obtain its distance from origin.